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EMC COMPONENTS

Catalog 2023-2024

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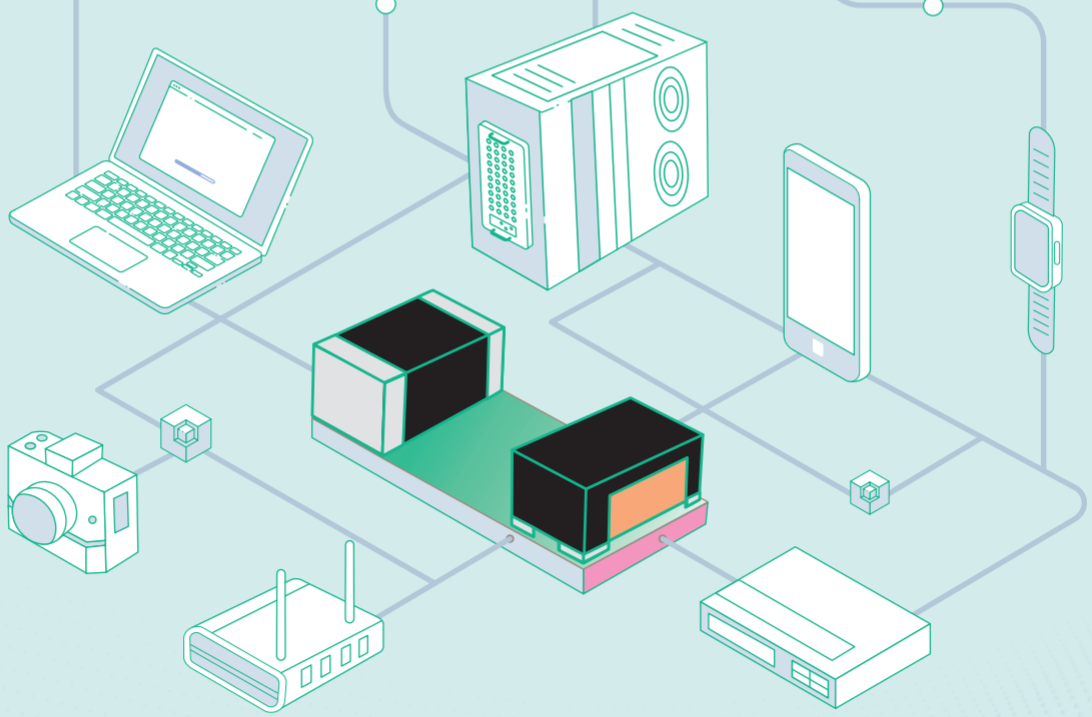


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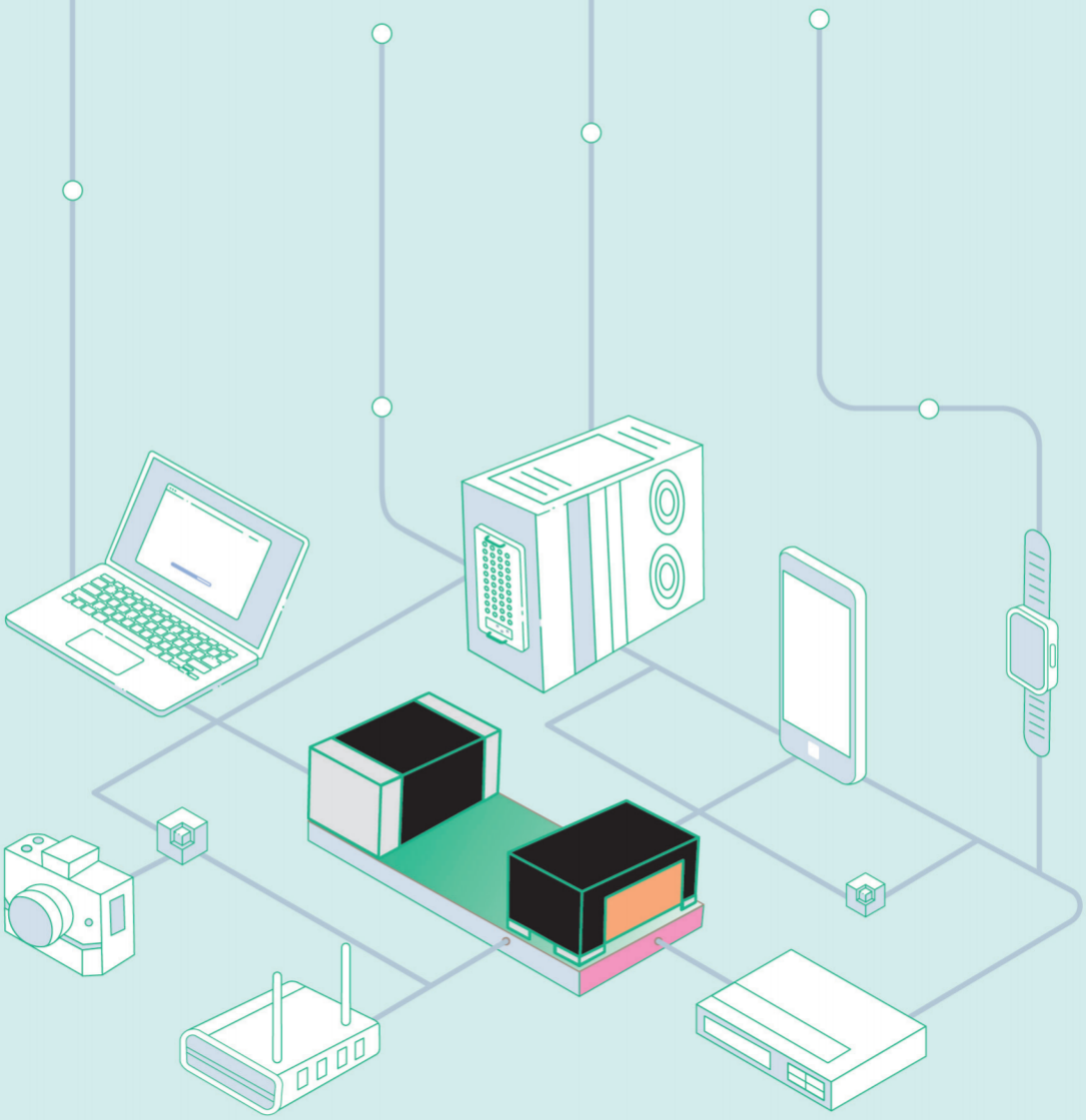

Revision
2023/9/8

Notice for Sunlord Products

Product data in this Catalog are as of June 2023. They are subject to change without advance notice. Please check with our sales representatives or product engineers before ordering.

All information and data presented in this Catalog are for information only. Please contact us for detail product specification. You are requested to approve our product specification before your ordering.

This catalog contains the typical product due to the limitation of space. Please contact our sales representatives or product engineer when you didn't find the suitable product in this catalogue.

Updated information on our products is also available through the internet home page at the following address:
Http:// www.sunlordinc.com

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PROPERTY RANGE TABLE

Multilayer Chip Ferrite Bead

Series	Shape	Dimensions	Impedance Range (Ω)	Rated Current (mA)	Page
			10 100 1000 10000		
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GZ-C		0603[0201]-1608[0603]	10 1500	100-1000	19
SZ		0603[0201]-2012[0805]	0 2700	50-1000	25
SZ-C		0603[0201]-1608[0603]	5 2500	100-800	33
PZ		0603[0201]-4516[1806]	10 1000	450-6000	37
UPZ		0603[0201]-2012[0805]	10 1000	500-6000	47
EPZ		1005[0402]-4030[1612]	10 220	1200-10000	53
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HFPZ		1005[0402]-1608[0603]	100 1500	150-2000	68
MZA		1005[0402]-3225[1210]	20 4600	230-1600	72
MZPA		2016[0806]-3225[1210]	50 680	2500-10000	76

Wire Wound Ferrite Bead

Series	Shape	Dimensions	Impedance Range (Ω)	Rated Current (mA)	Page
			10 100 1000 10000		
WHZ		1005[0402]-1608[0603]	11.23 5760	130-1600	79

PROPERTY RANGE TABLE

Chip Common Mode Choke Coil For Signal Line

Series	Shape	Dimensions	Impedance Range (Ω)	Rated Current (mA)	Page
			10 100 1000 10000		
SDMM		0605[025020]-0906[03052]	12 90	50-130	82
SDCW		2012[0805]-3216[1206]	30 2200	150-450	87
SDCW-S		1210[0504]-4532[1812]	20 1400	240-1100	90
SDCW-C		2012[0805]	67 180	250-330	93
SDCW-CH		2012[0805]	67 120	200-250	95
SDCW-H		1210[0504]-2012[0805]	35 120	280-320	97
SDCW-U		1210[0504]-2012[0805]	14 90	280-600	100

EMC COMPONENTS

Multilayer Chip Ferrite Bead – GZ Series

Operating temp. : -55°C ~+125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk.
- Can be used in a wide range of frequency (from dozens of MHz to hundreds of MHz) to suppress EMI.
- Three types material and wide range of impedance values for various applications.

APPLICATIONS

- Noise suppression for low speed signal of electric equipments such as computers and peripheral devices, smart wearable device, LCD TVs, communication equipments, OA equipments, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
GZ	3216	D	121	T	F	(A99)

1

Type	
GZ	Chip Ferrite Bead for General Use

2

External Dimensions (L×W) (mm)	
0603 [0201]	0.6×0.3
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8
2012 [0805]	2.0×1.25
3216 [1206]	3.2×1.6

3

Material Code
D, E, U

4

Nominal Impedance	
Example	Nominal Value
300	30Ω
121	120Ω
102	1000Ω

5

Packing	
T	Tape & Reel

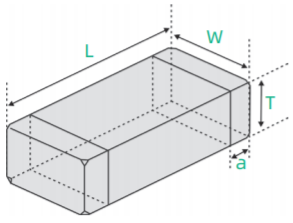
6

Hazardous Substance Free Products
F

7

Internal Code
A99

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
GZ0603 [0201]	0.6±0.05 [.024±.002]	0.3±0.05 [.012±.002]	0.3±0.05 [.012±.002]	0.15±0.05 [.006±.002]
GZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
GZ1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]
GZ2012 [0805]	2.0 (+0.3, -0.1) [.079 (+.012, -.004)]	1.25±0.2 [.049±.008]	0.85±0.2 [.033±.008]	0.5±0.3 [.020±.012]
GZ3216 [1206]	3.2±0.2 [.126±.008]	1.6±0.2 [.063±.008]	1.1±0.2 [0.043±0.008]	0.5±0.3 [.020±.012]

SPECIFICATIONS

GZ0603 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
GZ0603D600TF	60±25%	100	0.40	200	0.3±0.05 [.012±.002]
GZ0603D750TF	75±25%	100	0.40	200	
GZ0603D800TF	80±25%	100	0.60	200	
GZ0603D121TF	120±25%	100	0.80	200	
GZ0603D241TF	240±25%	100	1.00	200	
GZ0603D471TF	470±25%	100	1.40	200	
GZ0603D601TF	600±25%	100	1.70	200	
GZ0603D102TF	1000±25%	100	2.50	100	
GZ0603U100TF	5~15	100	0.10	500	
GZ0603U700TF	70±25%	100	0.40	200	
GZ0603U800TF	80±25%	100	0.40	200	
GZ0603U121TF	120±25%	100	0.50	200	
GZ0603U241TF	240±25%	100	0.80	200	
GZ0603U601TF	600±25%	100	1.50	100	
GZ0603U102TF	1000±25%	100	2.50	100	

GZ1005 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
GZ1005D100TF	0~15	100	0.05	500	0.5±0.15 [.020±.006]
GZ1005D310TF	31±25%	100	0.20	300	
GZ1005D600TF	60±25%	100	0.30	200	
GZ1005D800TF	80±25%	100	0.35	200	
GZ1005D121TF	120±25%	100	0.40	200	
GZ1005D221TF	220±25%	100	0.45	150	
GZ1005D301TF	300±25%	100	0.50	100	
GZ1005D421TF	420±25%	100	0.60	100	
GZ1005D501TF	500±25%	100	0.80	100	
GZ1005D601TF	600±25%	100	0.90	100	
GZ1005D751TF	750±25%	100	1.00	100	
GZ1005D102TF	1000±25%	100	1.20	100	
GZ1005D152TF	1500±25%	100	1.60	100	
GZ1005D182TF	1800±25%	100	2.00	50	
GZ1005E800TF	80±25%	100	0.35	200	
GZ1005E121TF	120±25%	100	0.40	200	
GZ1005E241TF	240±25%	100	0.50	200	
GZ1005E601TF	600±25%	100	0.90	100	
GZ1005U100TF	0~15	100	0.05	500	
GZ1005U300TF	30±25%	100	0.20	300	
GZ1005U700TF	70±25%	100	0.30	200	
GZ1005U121TF	120±25%	100	0.40	200	
GZ1005U221TF	220±25%	100	0.50	100	
GZ1005U301TF	300±25%	100	0.60	100	
GZ1005U421TF	420±25%	100	0.80	100	
GZ1005U601TF	600±25%	100	0.90	100	
GZ1005U102TF	1000±25%	100	1.20	100	

SPECIFICATIONS

GZ1608 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
GZ1608D110TF	0~15	100	0.05	2000	0.8±0.15 [.031±.006]
GZ1608D300TF	30±25%	100	0.05	2000	
GZ1608D600TF	60±25%	100	0.10	500	
GZ1608D800TF	80±25%	100	0.15	400	
GZ1608D101TF	100±25%	100	0.20	300	
GZ1608D121TF	120±25%	100	0.20	300	
GZ1608D221TF	220±25%	100	0.30	300	
GZ1608D301TF	300±25%	100	0.35	200	
GZ1608D471TF	470±25%	100	0.45	200	
GZ1608D601TF	600±25%	100	0.45	200	
GZ1608D751TF	750±25%	100	0.50	200	
GZ1608D102TF	1000±25%	100	0.60	200	
GZ1608D152TF	1500±25%	100	0.70	150	
GZ1608D182TF	1800±25%	100	0.90	100	
GZ1608D202TF	2000±25%	100	1.20	100	
GZ1608D222TF	2200±25%	100	1.20	100	
GZ1608D252TF	2500±25%	100	1.20	100	
GZ1608E121TF	120±25%	100	0.20	300	
GZ1608E181TF	180±25%	100	0.30	300	
GZ1608E601TF	600±25%	100	0.45	200	
GZ1608E102TF	1000±25%	100	0.60	200	
GZ1608U100TF	0~15	100	0.05	2000	
GZ1608U300TF	30±25%	100	0.05	2000	
GZ1608U600TF	60±25%	100	0.10	500	
GZ1608U121TF	120±25%	100	0.20	300	
GZ1608U221TF	220±25%	100	0.30	300	
GZ1608U301TF	300±25%	100	0.35	200	
GZ1608U471TF	470±25%	100	0.40	200	
GZ1608U601TF	600±25%	100	0.50	200	
GZ1608U102TF	1000±25%	100	0.60	200	

GZ2012 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max.Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
GZ2012D070TF	0~15	100	0.04	2000	0.85±0.2 [.033±.008]
GZ2012D190TF	19±25%	100	0.04	2000	
GZ2012D300TF	30±25%	100	0.05	1500	
GZ2012D800TF	80±25%	100	0.10	1000	
GZ2012D121TF	120±25%	100	0.15	800	
GZ2012D181TF	180±25%	100	0.18	700	
GZ2012D221TF	220±25%	100	0.20	600	
GZ2012D301TF	300±25%	100	0.20	500	
GZ2012D421TF	420±25%	100	0.30	500	
GZ2012D501TF	500±25%	100	0.30	500	
GZ2012D601TF	600±25%	100	0.30	500	
GZ2012D751TF	750±25%	100	0.35	500	
GZ2012D102TF	1000±25%	100	0.35	500	
GZ2012D152TF	1500±25%	100	0.40	500	

SPECIFICATIONS

GZ2012 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max.Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
GZ2012D202TF	2000±25%	100	0.50	500	0.85±0.2 [.033±.008]
GZ2012D252TF	2500±25%	100	0.70	200	
GZ2012E800TF	80±25%	100	0.10	1000	
GZ2012E181TF	180±25%	100	0.20	600	
GZ2012E301TF	300±25%	100	0.20	500	
GZ2012E501TF	500±25%	100	0.30	500	
GZ2012E601TF	600±25%	100	0.30	500	
GZ2012E102TF	1000±25%	100	0.35	500	
GZ2012U100TF	0~15	100	0.04	2200	
GZ2012U170TF	17±25%	100	0.04	2000	
GZ2012U300TF	30±25%	100	0.05	1500	
GZ2012U700TF	70±25%	100	0.10	1000	
GZ2012U121TF	120±25%	100	0.15	800	
GZ2012U221TF	220±25%	100	0.20	600	
GZ2012U301TF	300±25%	100	0.20	500	
GZ2012U421TF	420±25%	100	0.25	500	
GZ2012U601TF	600±25%	100	0.30	500	
GZ2012U102TF	1000±25%	100	0.40	500	

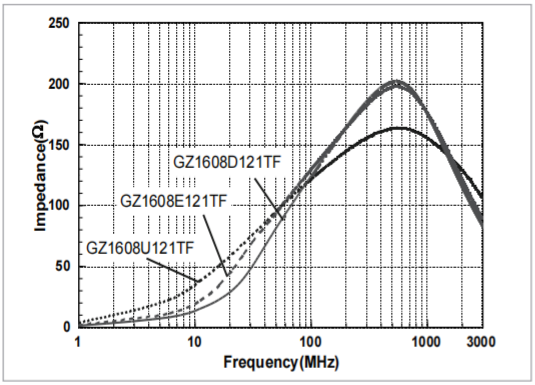
GZ3216 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max.Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
GZ3216D000TF	0~15	100	0.03	2200	0.85±0.2 [.033±.008]
GZ3216D310TF	31±25%	100	0.05	2000	
GZ3216D600TF	60±25%	100	0.10	1000	
GZ3216D301TF	300±25%	100	0.20	600	
GZ3216D100TFA99	0~15	100	0.05	2000	1.10±0.2 [0.043±0.008]
GZ3216D190TFA99	19±25%	100	0.05	2000	
GZ3216D800TFA99	80±25%	100	0.10	1000	
GZ3216D101TFA99	100±25%	100	0.10	1000	
GZ3216D121TFA99	120±25%	100	0.10	1000	
GZ3216D151TFA99	150±25%	100	0.15	800	
GZ3216D221TFA99	220±25%	100	0.20	600	
GZ3216D501TFA99	500±25%	100	0.30	600	
GZ3216D601TFA99	600±25%	100	0.30	600	
GZ3216D102TFA99	1000±25%	100	0.60	500	
GZ3216D122TFA99	1200±25%	100	0.60	300	
GZ3216U601TFA99	600±25%	100	0.30	600	

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

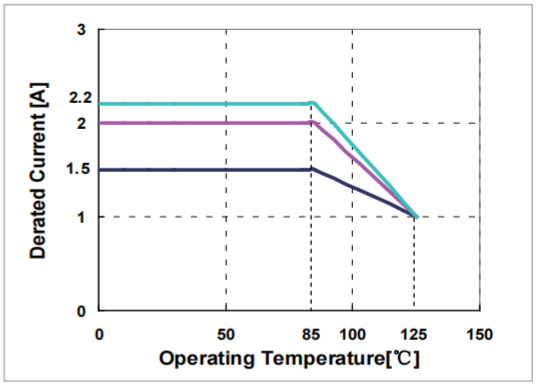
TYPICAL ELECTRICAL CHARACTERISTICS

D, E, U Material Comparison



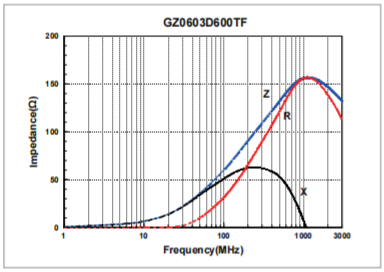
Rated Current

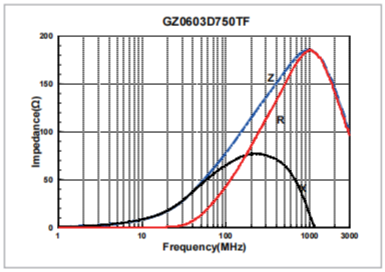
When operating temperatures exceeding +85℃ , derating of current is necessary for chip ferrite beads for which rated current is 1000mA over. Please apply the derating curve shown in chart according to the operating temperature.

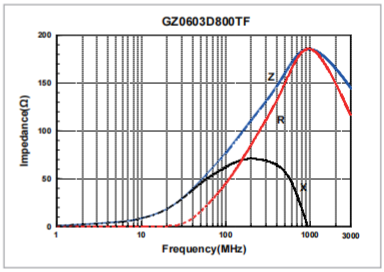


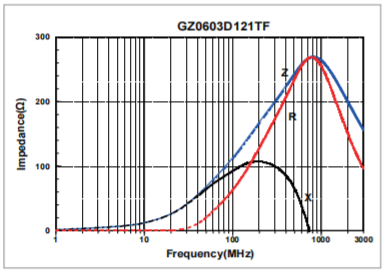
DETAIL ELECTRICAL CHARACTERISTICS

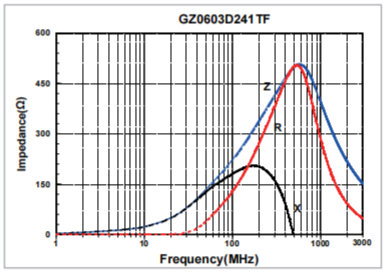
GZ0603 TYPE

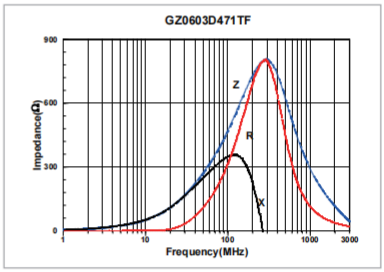


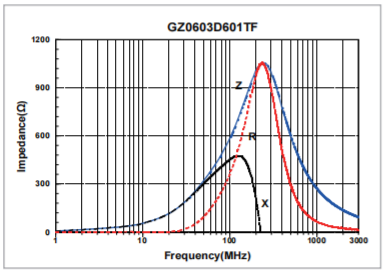


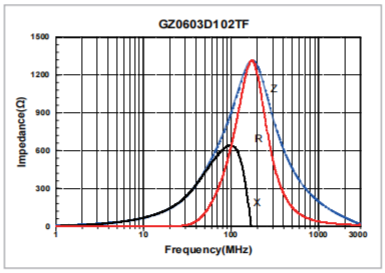


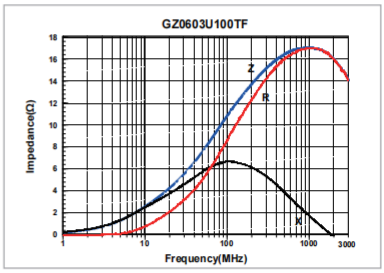


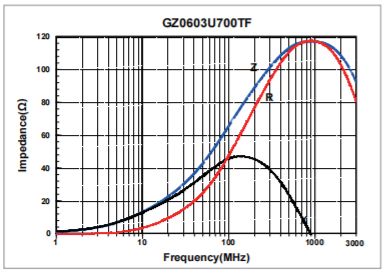


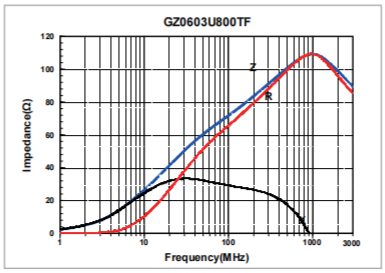


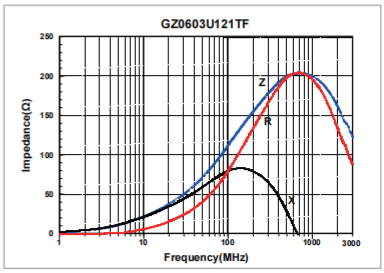






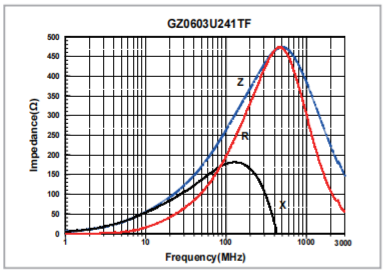


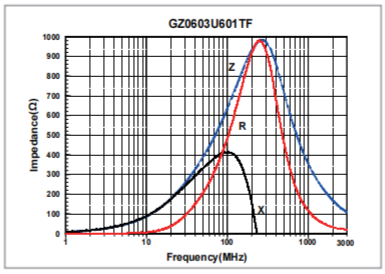


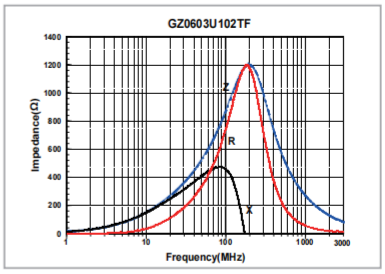


DETAIL ELECTRICAL CHARACTERISTICS

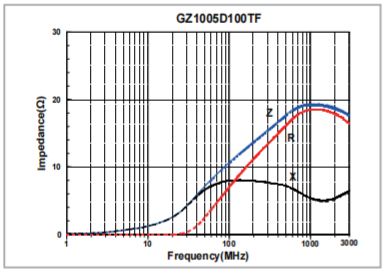
GZ0603 TYPE

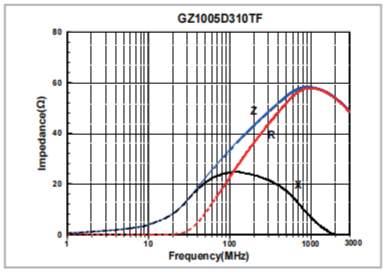


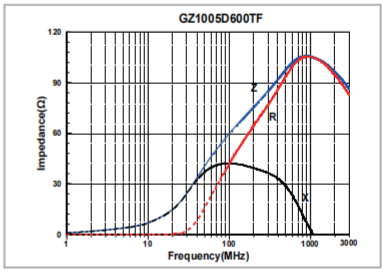


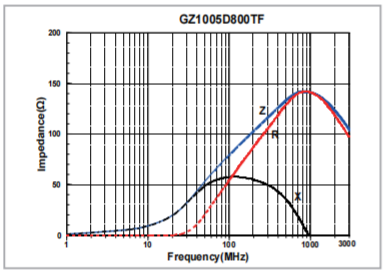


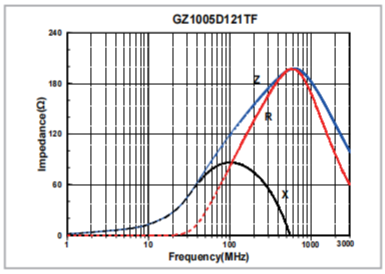
GZ1005 TYPE

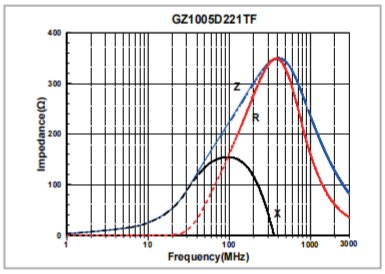


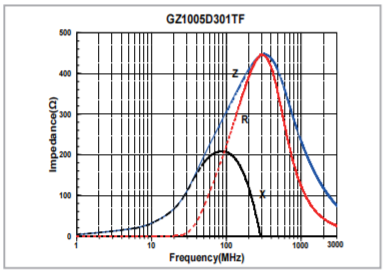


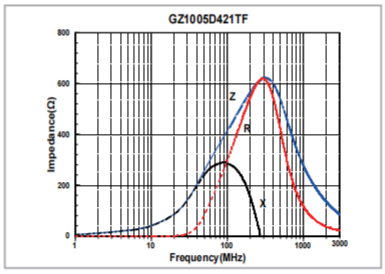


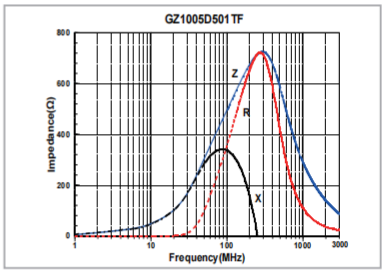


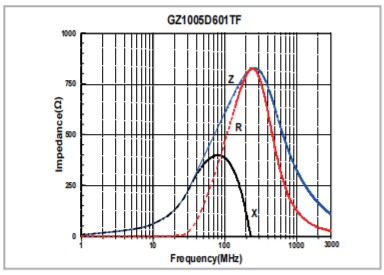


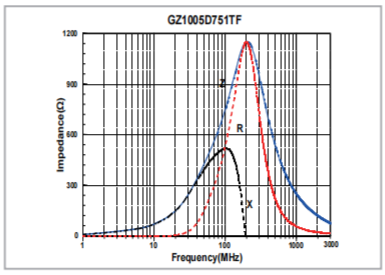


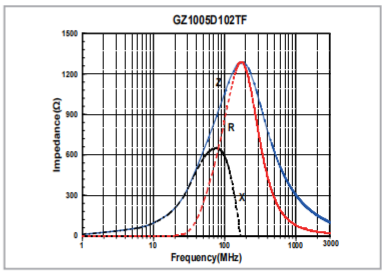




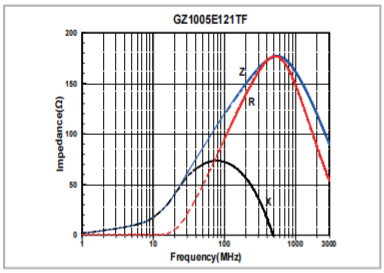


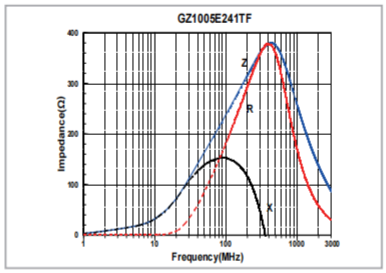


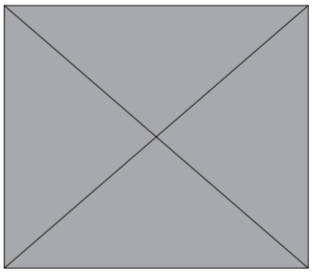




DETAIL ELECTRICAL CHARACTERISTICS

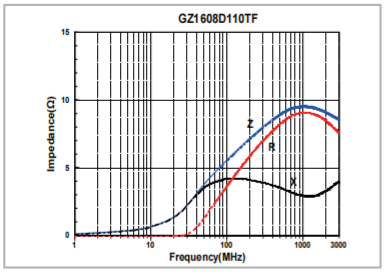


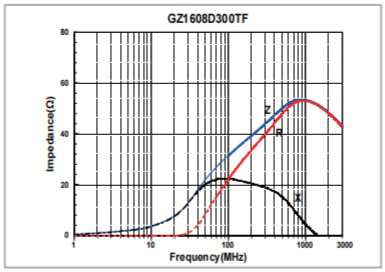


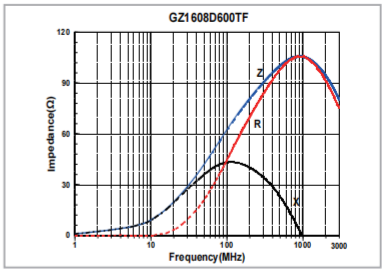


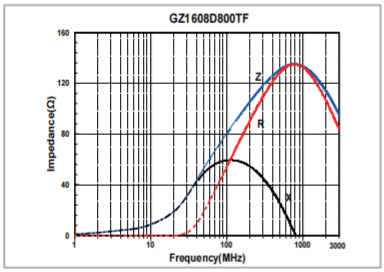
DETAIL ELECTRICAL CHARACTERISTICS

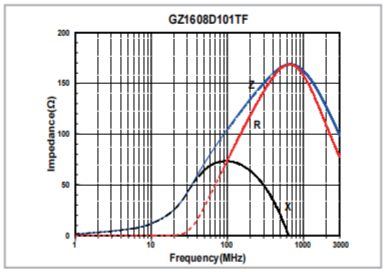
GZ1608 TYPE

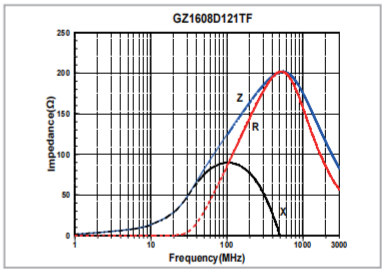


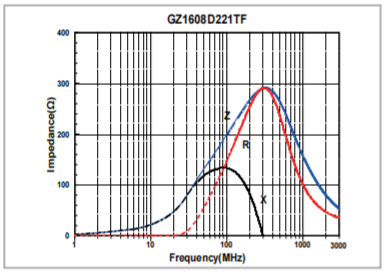


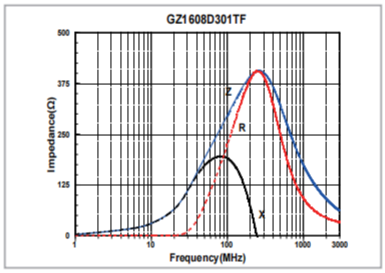


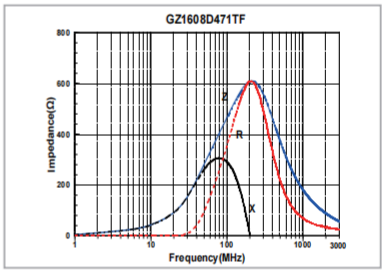


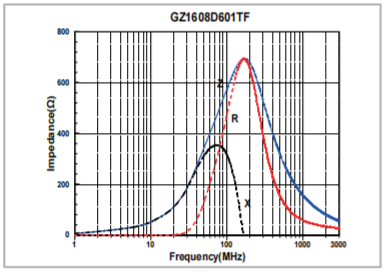


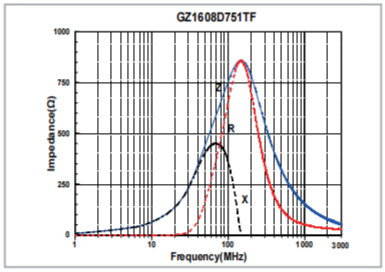


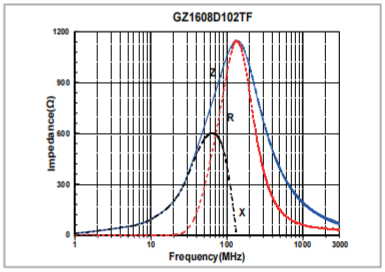


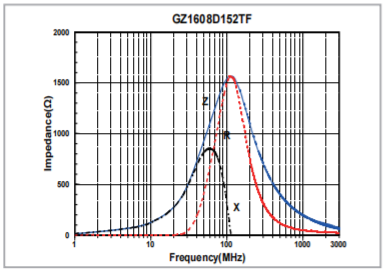


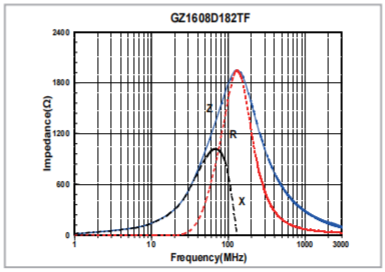


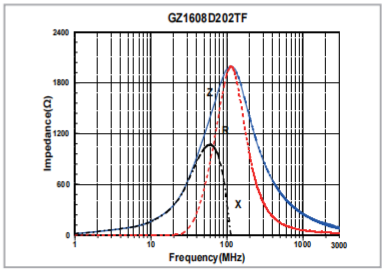


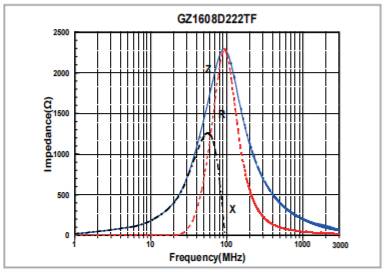


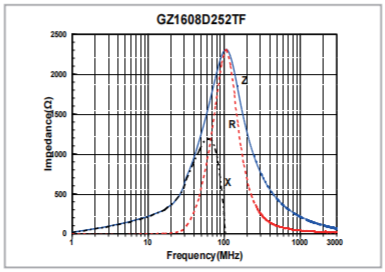


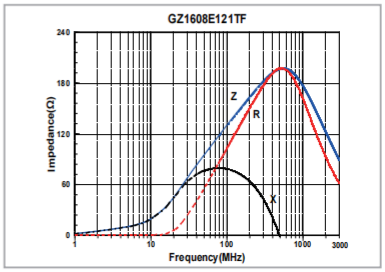






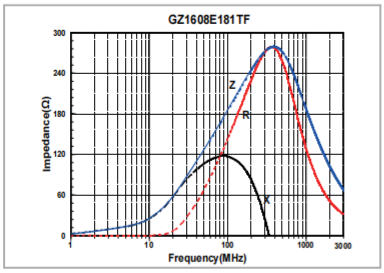


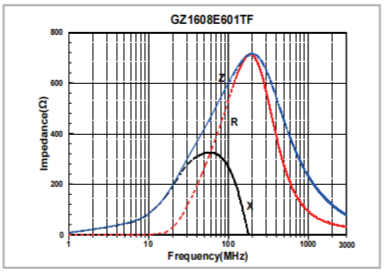


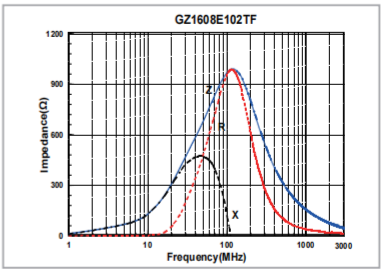


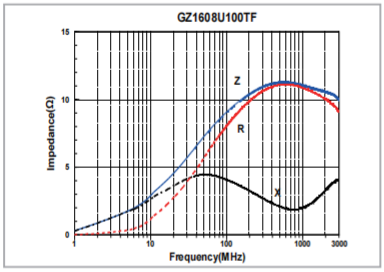
DETAIL ELECTRICAL CHARACTERISTICS

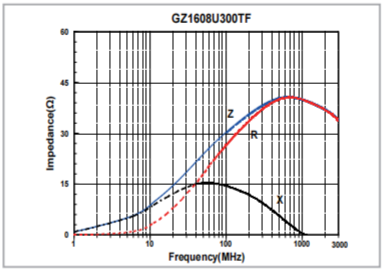
GZ1608 TYPE

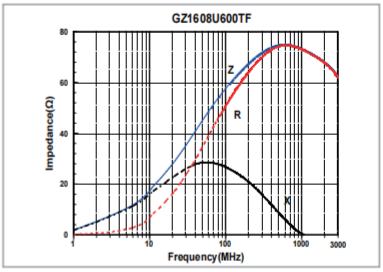


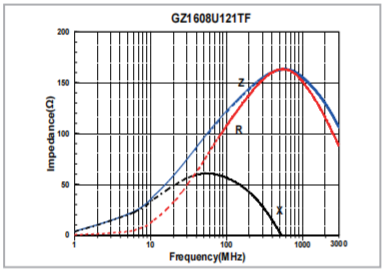


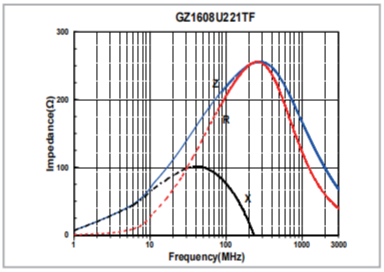


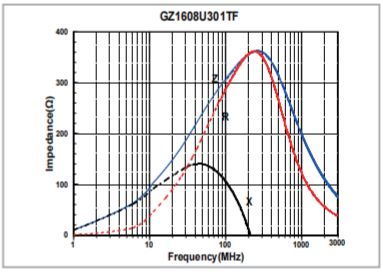


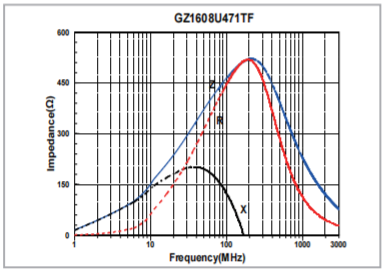


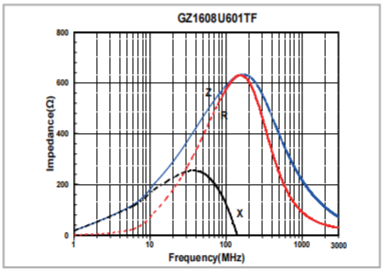


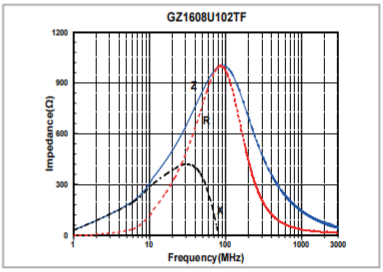




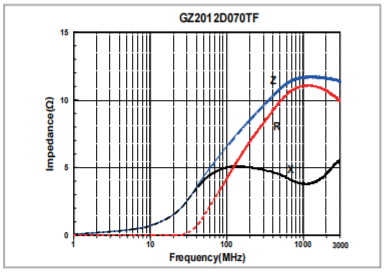


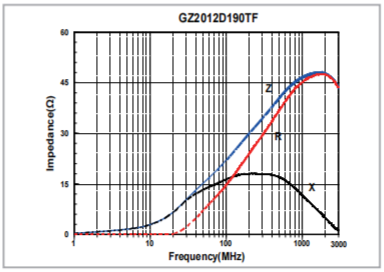


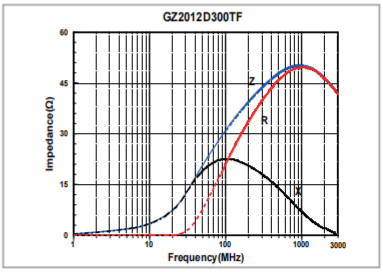




GZ2012 TYPE

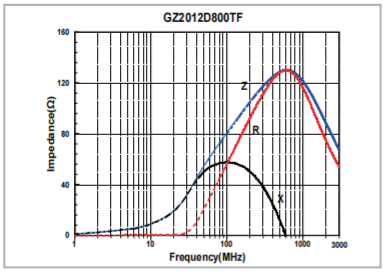


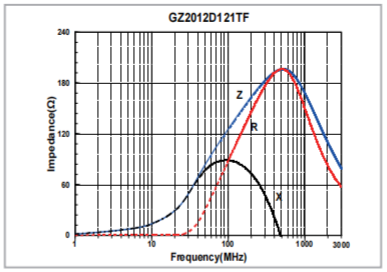


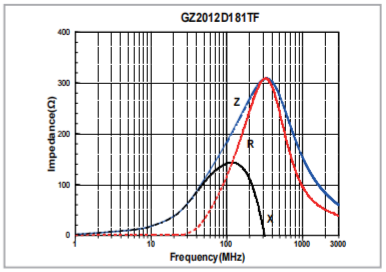


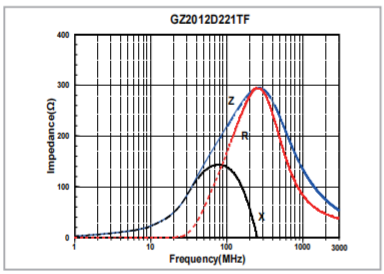
DETAIL ELECTRICAL CHARACTERISTICS

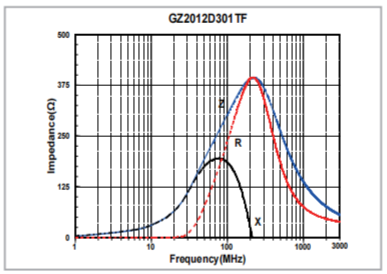
GZ2012 TYPE

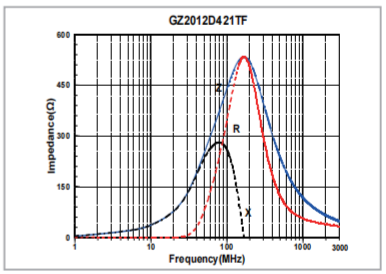


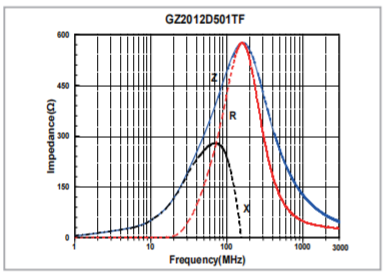


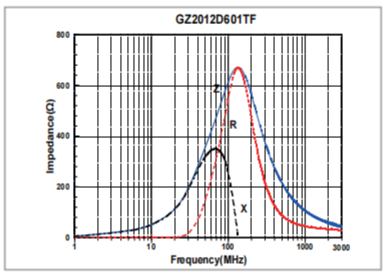


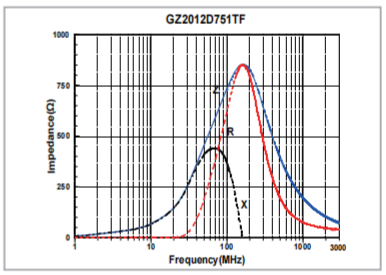


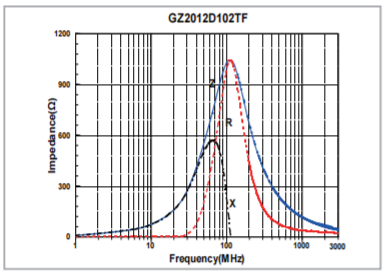


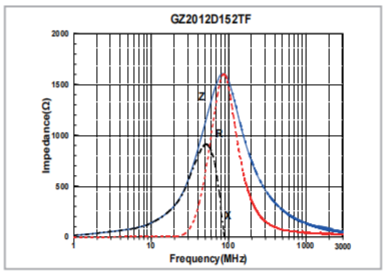


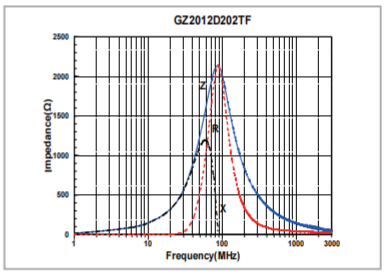


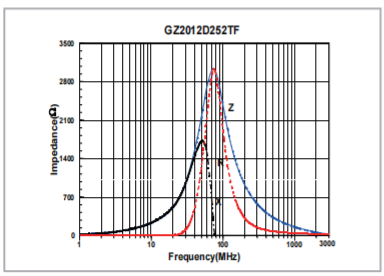


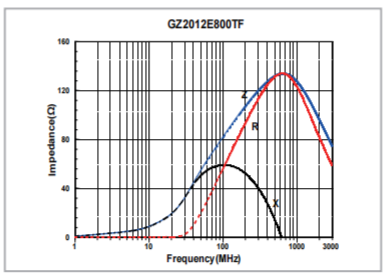


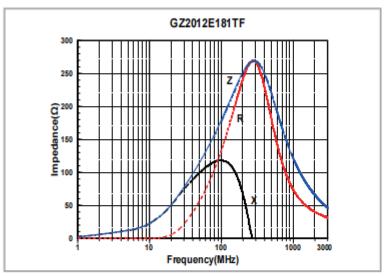


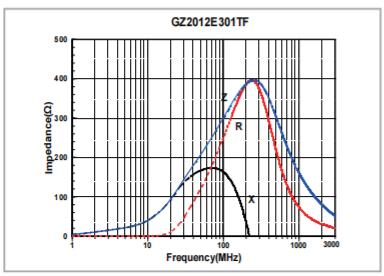


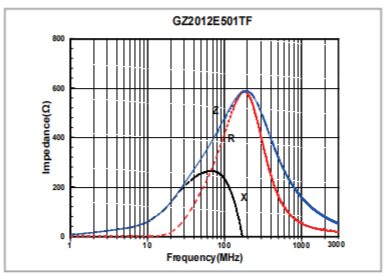


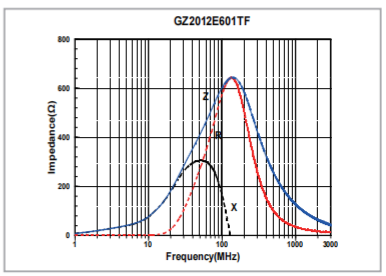






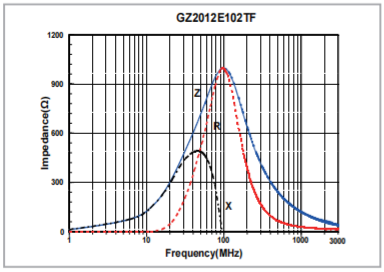


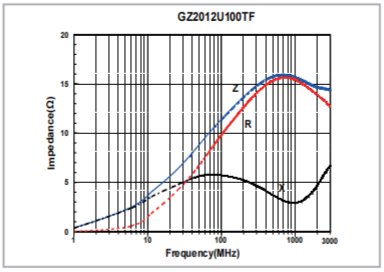


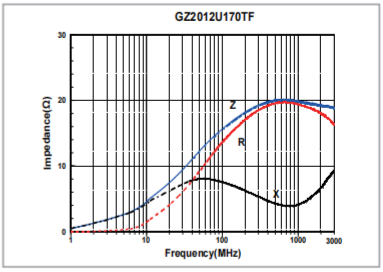


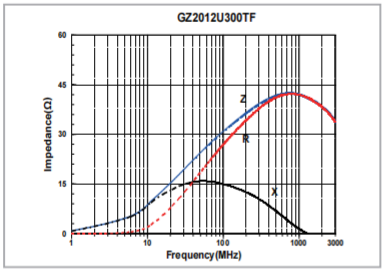
DETAIL ELECTRICAL CHARACTERISTICS

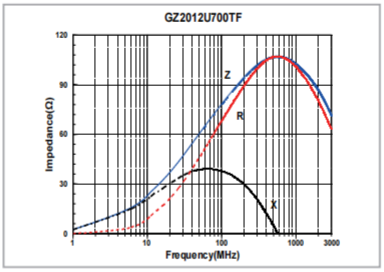
GZ2012 TYPE

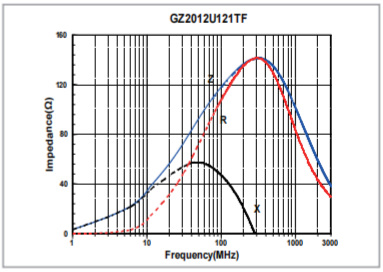


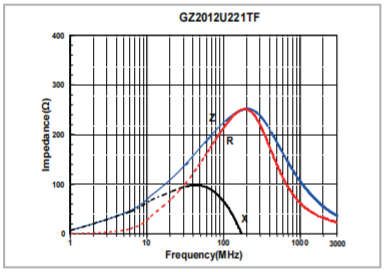


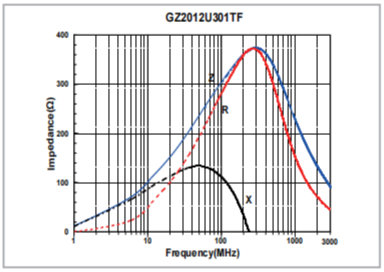


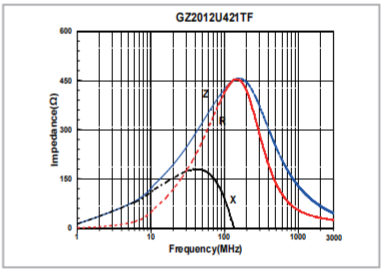


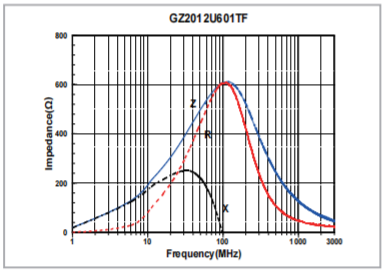


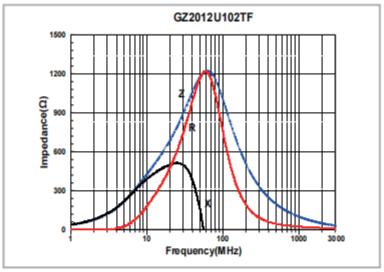




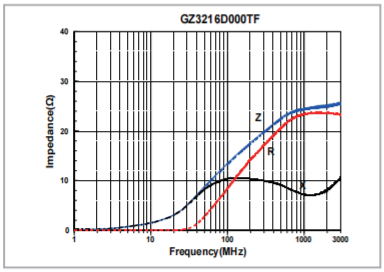


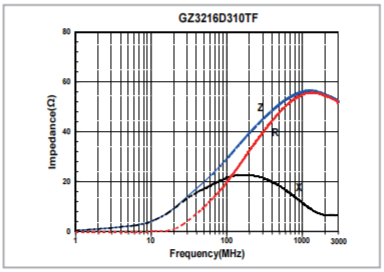


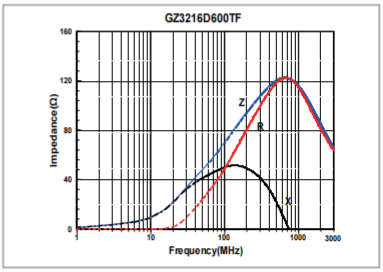




GZ3216 TYPE

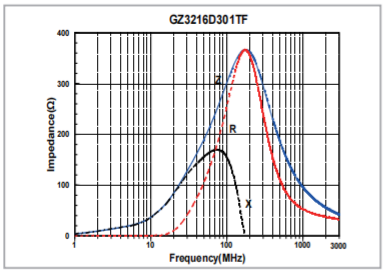


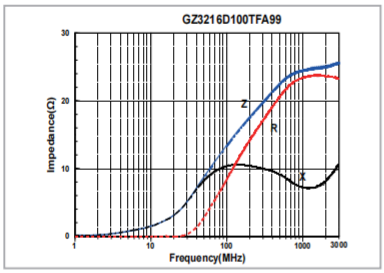


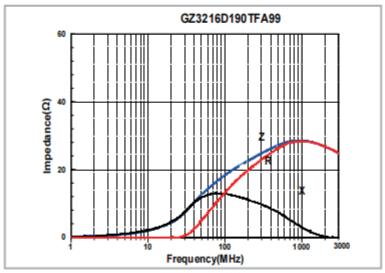


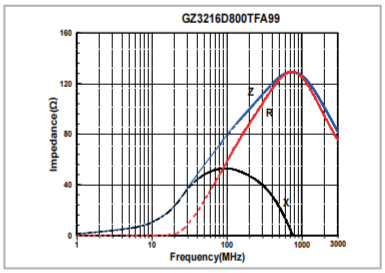
DETAIL ELECTRICAL CHARACTERISTICS

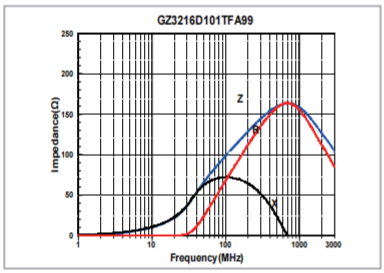
GZ3216 TYPE

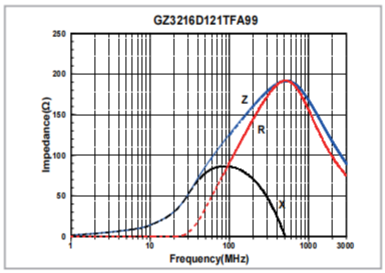


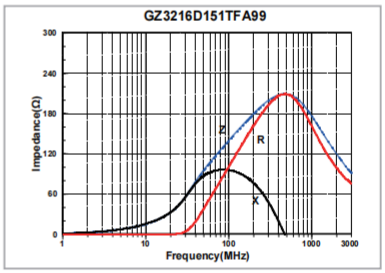


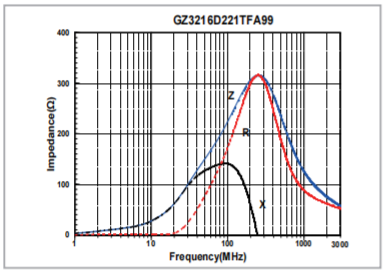


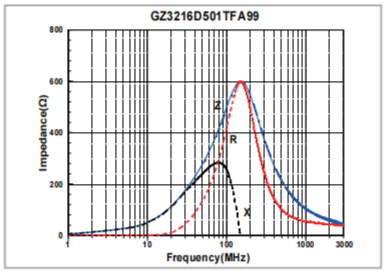


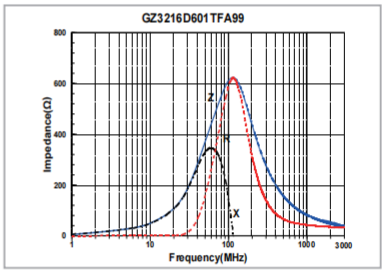


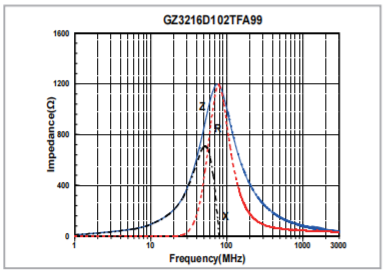


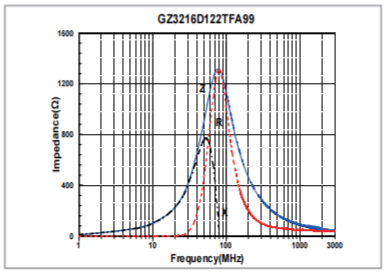


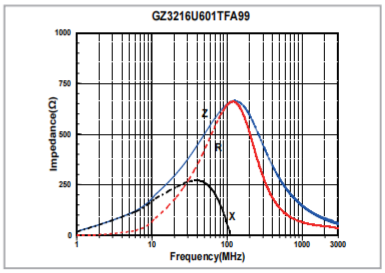












Multilayer Chip Ferrite Bead – GZ-C Series

Operating temp. : -55°C ~ +125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk
- Can be used in a wide range of frequency (from dozens of MHz to hundreds of MHz) to suppress EMI
- Smaller DC resistance and large rate current than GZ series

APPLICATIONS

- Noise suppression for low speed signal of electric equipments such as computers and peripheral devices, smart wearable device, LCD TVs, communication equipments, OA equipments, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
GZ	3216	D	121	C	T	F

1

Type	
GZ	Chip Ferrite Bead for General Use

2

External Dimensions (L×W) (mm)	
0603 [0201]	0.6×0.3
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8

3

Material Code
D, E, U

4

Nominal Impedance	
Example	Nominal Value
400	40Ω
121	120Ω
102	1000Ω

5

Feature Code
C

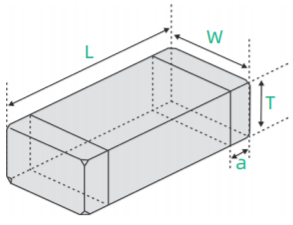
6

Packing	
T	Tape & Reel

7

Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
GZ0603 [0201]	0.6±0.05 [.024±.002]	0.3±0.05 [.012±.002]	0.3±0.05 [.012±.002]	0.15±0.05 [.006±.002]
GZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
GZ1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]

SPECIFICATIONS

GZ0603-C TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
GZ0603D600CTF	60±25%	100	0.3	200	0.3±0.05 [.012±.002]
GZ0603D800CTF	80±25%	100	0.4	200	
GZ0603D121CTF	120±25%	100	0.5	200	
GZ0603D241CTF	240±25%	100	0.8	200	
GZ0603D601CTF	600±25%	100	1.5	200	
GZ0603D102CTF	1000±25%	100	2.0	100	

GZ1005-C TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
GZ1005D400CTF	40±25%	100	0.12	550	0.5±0.15 [.020±.006]
GZ1005D800CTF	80±25%	100	0.16	450	
GZ1005D121CTF	120±25%	100	0.18	400	
GZ1005D241CTF	240±25%	100	0.30	300	
GZ1005D301CTF	300±25%	100	0.38	250	
GZ1005D421CTF	420±25%	100	0.45	250	
GZ1005D471CTF	470±25%	100	0.45	250	
GZ1005D501CTF	500±25%	100	0.50	250	
GZ1005D601CTF	600±25%	100	0.50	250	
GZ1005D751CTF	750±25%	100	0.65	150	
GZ1005D102CTF	1000±25%	100	0.70	150	
GZ1005D152CTF	1500±25%	100	1.15	100	
GZ1005E800CTF	80±25%	100	0.2	500	
GZ1005E121CTF	120±25%	100	0.25	500	
GZ1005E241CTF	240±25%	100	0.40	400	
GZ1005E601CTF	600±25%	100	0.60	300	
GZ1005U100CTF	0~15	100	0.03	1000	
GZ1005U300CTF	30±25%	100	0.06	700	
GZ1005U700CTF	70±25%	100	0.10	700	
GZ1005U121CTF	120±25%	100	0.20	500	
GZ1005U221CTF	220±25%	100	0.30	400	
GZ1005U301CTF	300±25%	100	0.50	300	
GZ1005U421CTF	420±25%	100	0.52	300	
GZ1005U601CTF	600±25%	100	0.55	300	
GZ1005U102CTF	1000±25%	100	0.58	300	

GZ1608-C TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
GZ1608D121CTF	120±25%	100	0.20	500	0.8±0.15 [.031±.006]
GZ1608D241CTF	240±25%	100	0.30	500	
GZ1608D301CTF	300±25%	100	0.35	500	
GZ1608D471CTF	470±25%	100	0.40	500	
GZ1608D601CTF	600±25%	100	0.40	500	

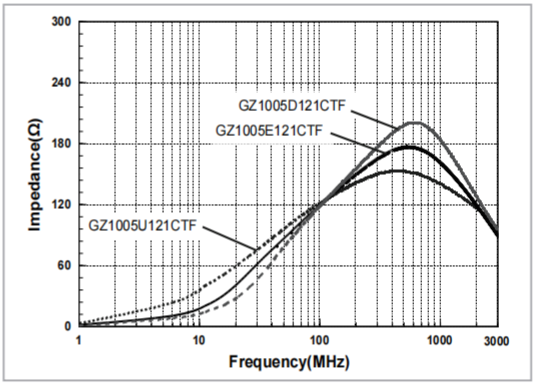
SPECIFICATIONS GZ1608-C TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
GZ1608D102CTF	1000±25%	100	0.50	400	0.8±0.15 [.031±.006]
GZ1608D152CTF	1500±25%	100	0.60	300	
GZ1608E121CTF	120±25%	100	0.20	500	
GZ1608E102CTF	1000±25%	100	0.50	400	
GZ1608U600CTF	60±25%	100	0.10	800	
GZ1608U800CTF	80±25%	100	0.10	600	
GZ1608U121CTF	120±25%	100	0.18	500	
GZ1608U151CTF	150±25%	100	0.25	500	
GZ1608U221CTF	220±25%	100	0.25	500	
GZ1608U301CTF	300±25%	100	0.25	500	
GZ1608U471CTF	470±25%	100	0.35	500	
GZ1608U601CTF	600±25%	100	0.38	500	
GZ1608U102CTF	1000±25%	100	0.50	400	

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

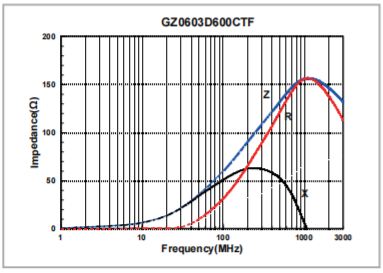
TYPICAL ELECTRICAL CHARACTERISTICS

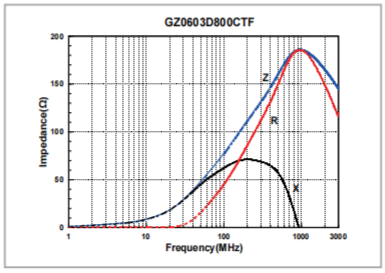
D, E, U Material Comparison

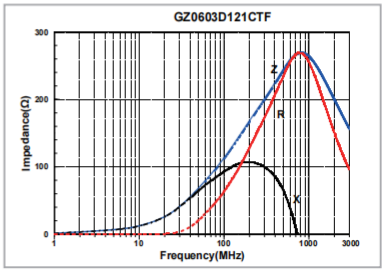


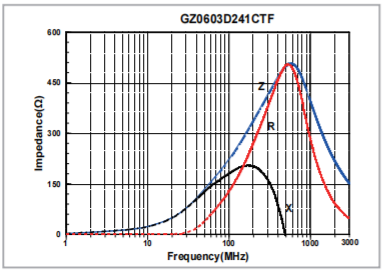
DETAIL ELECTRICAL CHARACTERISTICS

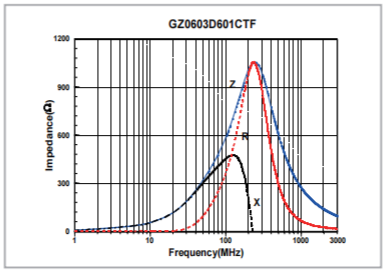
GZ0603-C TYPE

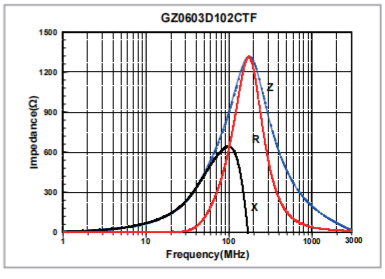






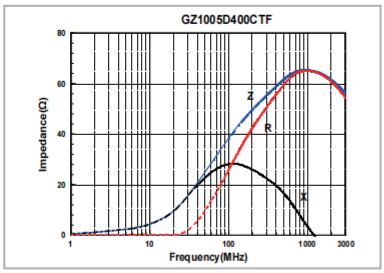


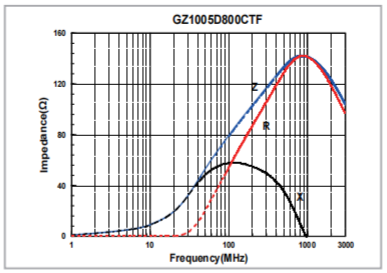


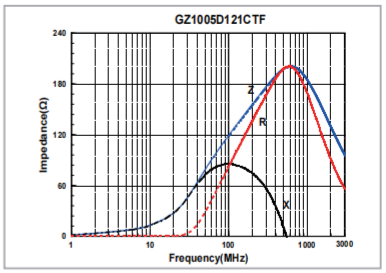


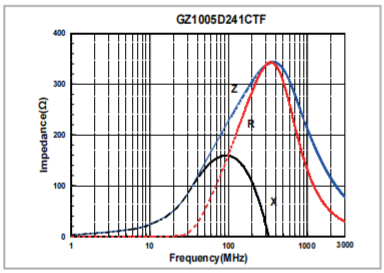
DETAIL ELECTRICAL CHARACTERISTICS

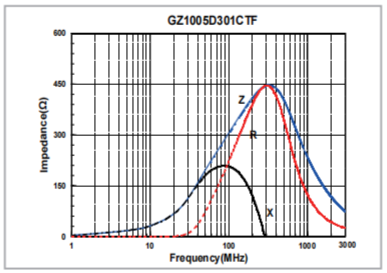
GZ1005-C TYPE

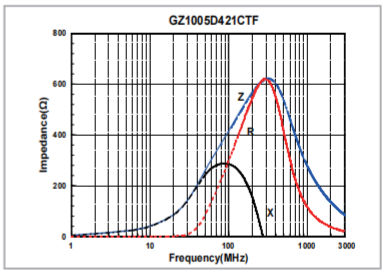


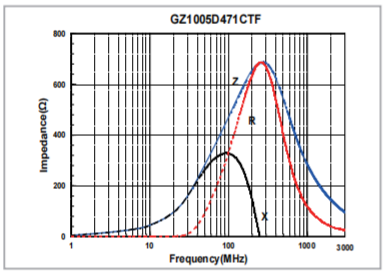


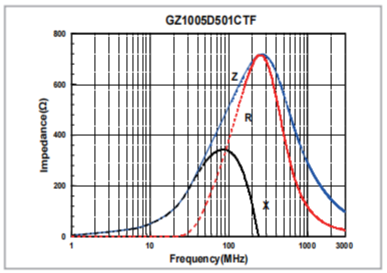


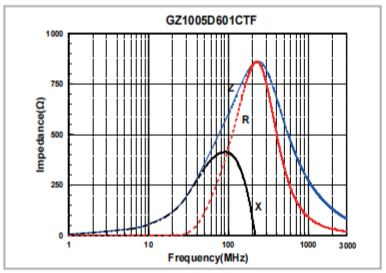


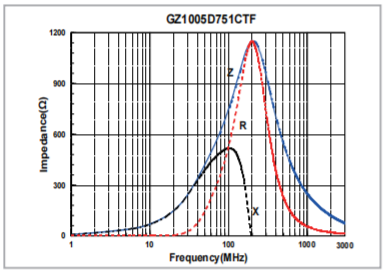


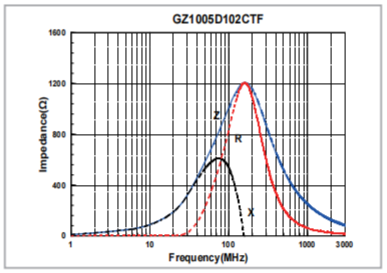


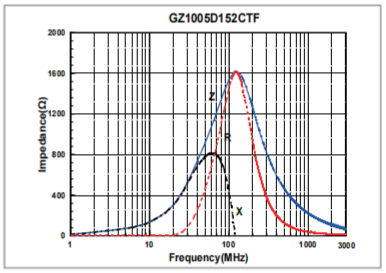


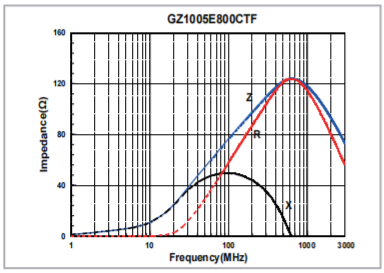


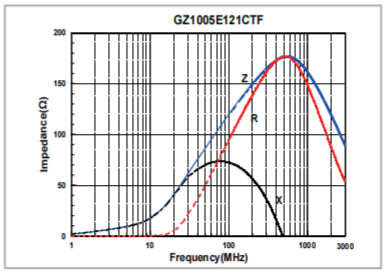


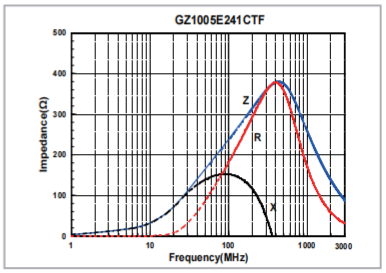


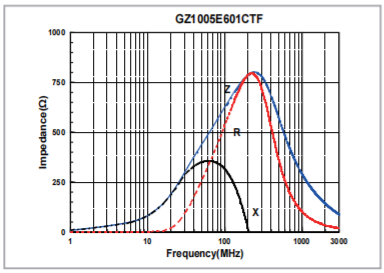


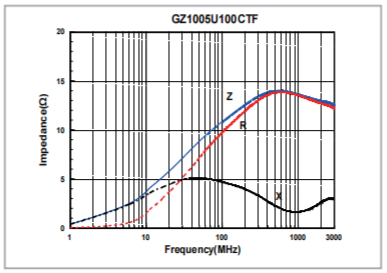


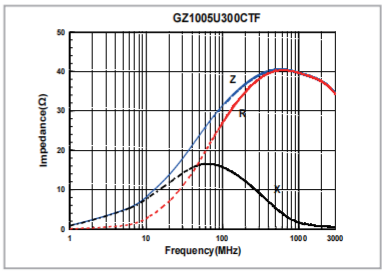






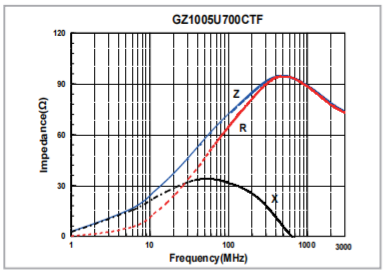


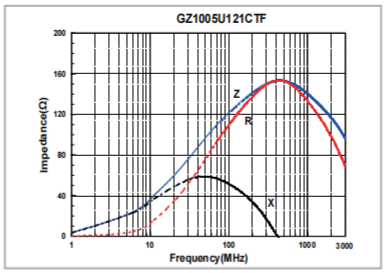


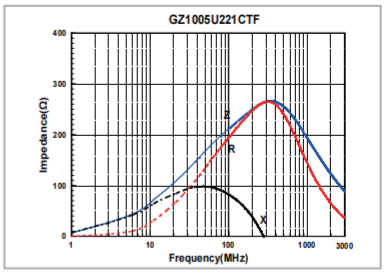


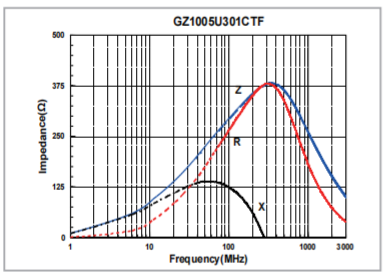
DETAIL ELECTRICAL CHARACTERISTICS

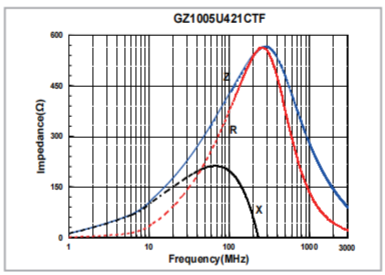
GZ1005-C TYPE

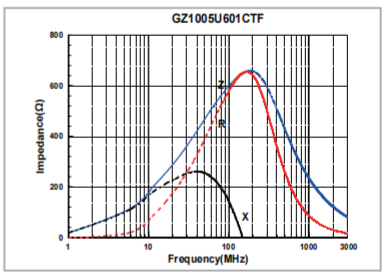


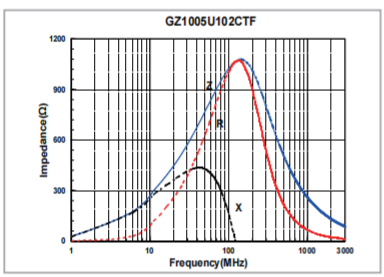




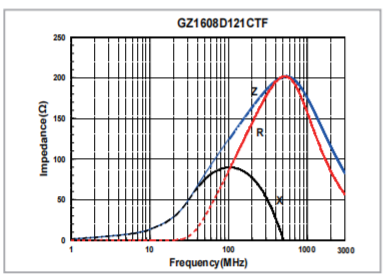


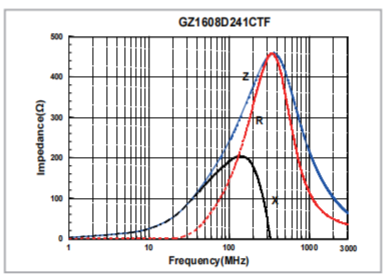


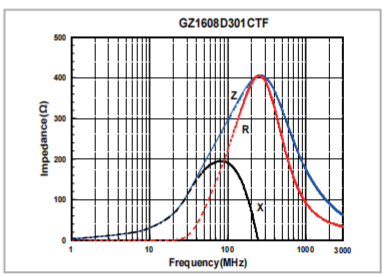


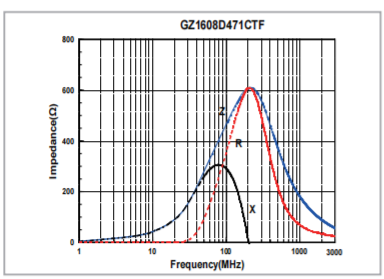


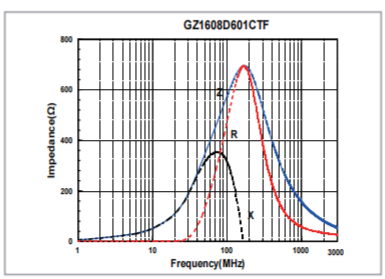
GZ1608-C TYPE

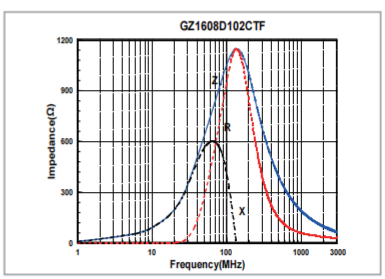






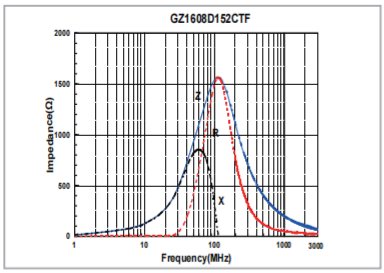


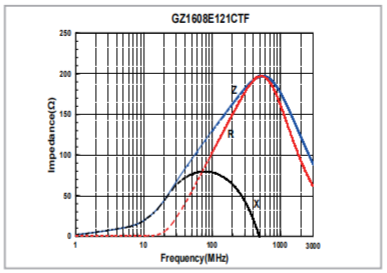


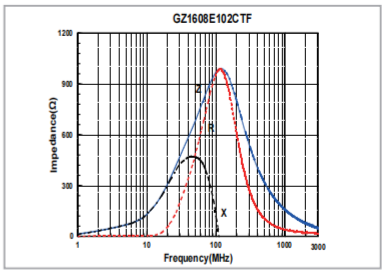


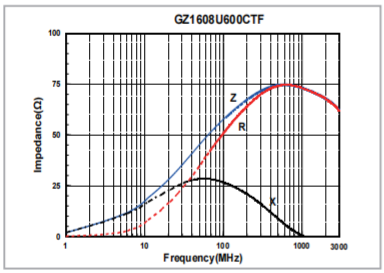
DETAIL ELECTRICAL CHARACTERISTICS

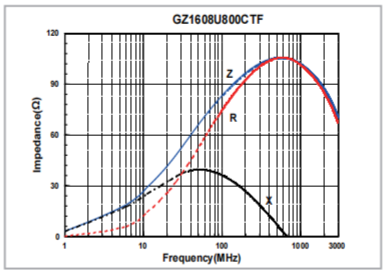
GZ1608-C TYPE

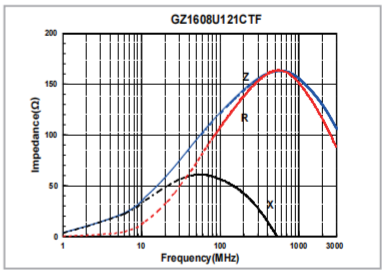


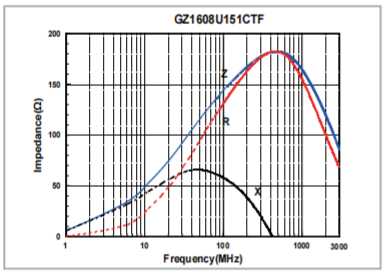


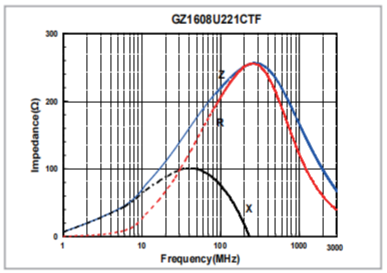


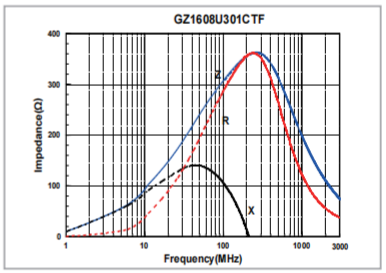


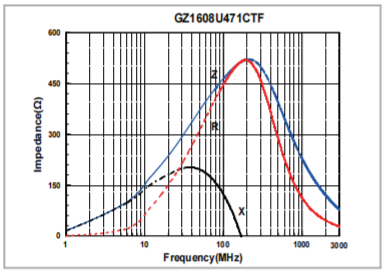


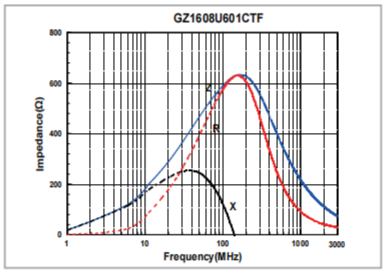


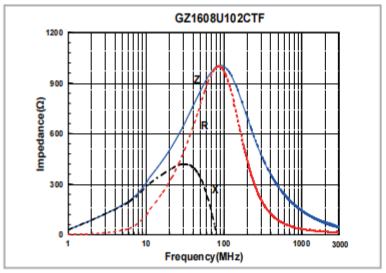












Multilayer Chip Ferrite Bead – SZ Series

Operating temp. : -55°C ~ +125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk
- It has sharp impedance characteristics at desirable frequency and does not affect the signal frequency
- Three types material and wide range of impedance values for various applications

APPLICATIONS

- Noise suppression for high speed signal of electric equipments such as computers and peripheral devices, Set-Top-Box, LCD TVs, communication equipments, OA equipments, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6
SZ	1608	G	121	T	F

1

Type	
SZ	Chip Ferrite Bead For High Speed

2

External Dimensions (L×W) (mm)	
0603 [0201]	0.6×0.3
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8
2012 [0805]	2.0×1.25

3

Material Code
F, G, K,Q

4

Nominal Impedance	
Example	Nominal Value
300	30Ω
121	120Ω
102	1000Ω

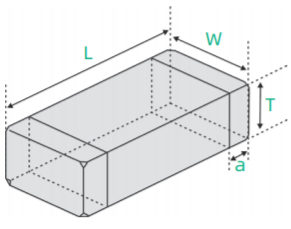
5

Packing	
T	Tape & Reel

6

Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
SZ0603 [0201]	0.6±0.05 [.024±.002]	0.3±0.05 [.012±.002]	0.3±0.05 [.012±.002]	0.15±0.05 [.006±.002]
SZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
SZ1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]
SZ2012 [0805]	2.0 (+0.3, -0.1) [.079 (+.012, -.004)]	1.25±0.2 [.049±.008]	0.85±0.2 [.033±.008]	0.5±0.3 [.020±.012]

SPECIFICATIONS

SZ0603 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
SZ0603F330TF	33±25%	100	0.85	150	0.3±0.05 [.012±.002]
SZ0603F560TF	56±25%	100	1.05	100	
SZ0603F800TF	80±25%	100	1.40	100	
SZ0603G100TF	10±25%	100	0.25	200	
SZ0603G220TF	22±25%	100	0.45	200	
SZ0603G330TF	33±25%	100	0.55	150	
SZ0603G470TF	47±25%	100	0.70	150	
SZ0603G560TF	56±25%	100	1.00	100	
SZ0603G800TF	80±25%	100	1.30	100	
SZ0603G121TF	120±25%	100	1.50	100	
SZ0603K100TF	5~15	100	0.40	300	
SZ0603K220TF	22±25%	100	0.50	200	
SZ0603K470TF	47±25%	100	0.70	200	
SZ0603K750TF	75±25%	100	1.00	200	
SZ0603K121TF	120±25%	100	1.50	100	

SZ1005 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
SZ1005F050TF	0~10	100	0.10	300	0.5±0.15 [.020±.006]
SZ1005F100TF	5~15	100	0.20	300	
SZ1005F330TF	33±25%	100	0.40	300	
SZ1005G050TF	0~15	100	0.15	600	
SZ1005G300TF	30±25%	100	0.15	600	
SZ1005G750TF	75±25%	100	0.30	600	
SZ1005G121TF	120±25%	100	0.40	400	
SZ1005G221TF	220±25%	100	0.70	200	
SZ1005K750TF	75±25%	100	0.30	600	
SZ1005K121TF	120±25%	100	0.40	400	
SZ1005K221TF	220±25%	100	0.70	200	
SZ1005K301TF	300±25%	100	0.80	200	
SZ1005K421TF	420±25%	100	1.00	150	
SZ1005K601TF	600±25%	100	1.10	100	
SZ1005K102TF	1000±25%	100	1.20	100	
SZ1005K152TF	1500±25%	100	1.40	100	
SZ1005K182TF	1800±25%	100	1.80	50	

SZ1608 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
SZ1608F050TF	0~10	100	0.20	500	0.8±0.15 [.031±.006]
SZ1608F100TF	5~15	100	0.25	500	
SZ1608F220TF	22±25%	100	0.35	500	
SZ1608F470TF	47±25%	100	0.55	300	
SZ1608F750TF	75±25%	100	0.70	300	
SZ1608F121TF	120±25%	100	0.90	200	

SPECIFICATIONS

SZ1608 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
SZ1608G050TF	0~15	100	0.10	800	0.8±0.15 [.031±.006]
SZ1608G220TF	22±25%	100	0.20	800	
SZ1608G600TF	60±25%	100	0.30	600	
SZ1608G121TF	120±25%	100	0.45	600	
SZ1608G221TF	220±25%	100	0.55	500	
SZ1608G331TF	330±25%	100	0.70	500	
SZ1608G471TF	470±25%	100	0.80	400	
SZ1608G601TF	600±25%	100	1.10	200	
SZ1608G102TF	1000±25%	100	1.20	150	
SZ1608K121TF	120±25%	100	0.40	600	
SZ1608K221TF	220±25%	100	0.45	500	
SZ1608K331TF	330±25%	100	0.50	500	
SZ1608K421TF	420±25%	100	0.55	400	
SZ1608K471TF	470±25%	100	0.55	400	
SZ1608K601TF	600±25%	100	0.60	200	
SZ1608K102TF	1000±25%	100	0.80	200	
SZ1608K152TF	1500±25%	100	0.80	200	
SZ1608K202TF	2000±25%	100	1.00	200	
SZ1608K222TF	2200±25%	100	1.00	200	
SZ1608K252TF	2500±25%	100	1.20	200	
SZ1608K272TF	2700±25%	100	1.40	200	

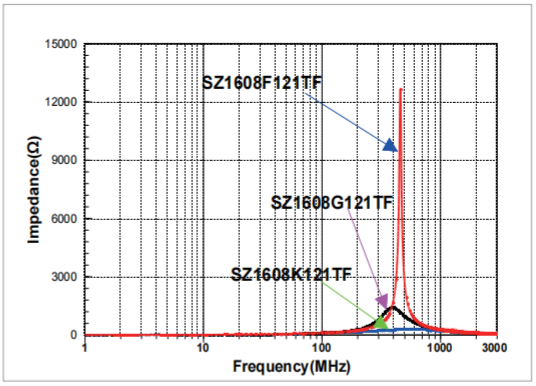
SZ2012 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
SZ2012G050TF	0~15	100	0.07	1000	0.85±0.2 [.033±.008]
SZ2012G600TF	60±25%	100	0.20	800	
SZ2012G121TF	120±25%	100	0.25	600	
SZ2012G221TF	220±25%	100	0.30	600	
SZ2012G421TF	420±25%	100	0.40	600	
SZ2012G601TF	600±25%	100	0.45	600	
SZ2012G102TF	1000±25%	100	0.50	500	
SZ2012K121TF	120±25%	100	0.20	600	
SZ2012K221TF	220±25%	100	0.25	600	
SZ2012K301TF	300±25%	100	0.30	600	
SZ2012K601TF	600±25%	100	0.35	600	
SZ2012K102TF	1000±25%	100	0.40	500	
SZ2012K152TF	1500±25%	100	0.45	200	
SZ2012K222TF	2200±25%	100	0.60	200	
SZ2012K252TF	2500±25%	100	0.70	200	
SZ2012K272TF	2700±25%	100	0.80	200	

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

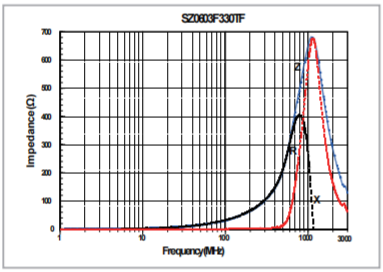
TYPICAL ELECTRICAL CHARACTERISTICS

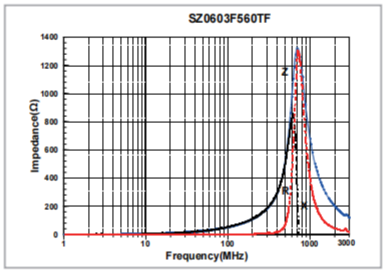
F, G, K Material Comparison

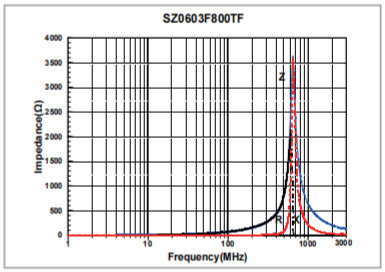


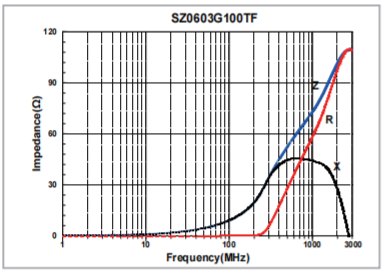
DETAIL ELECTRICAL CHARACTERISTICS

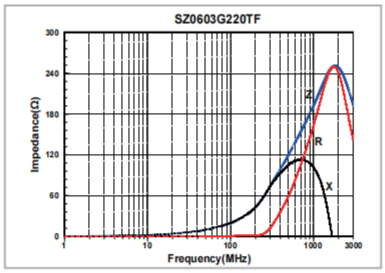
SZ0603 TYPE

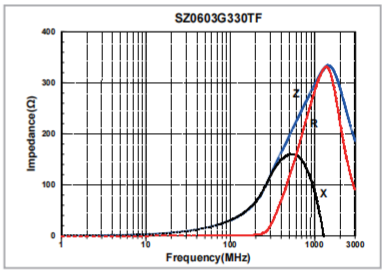


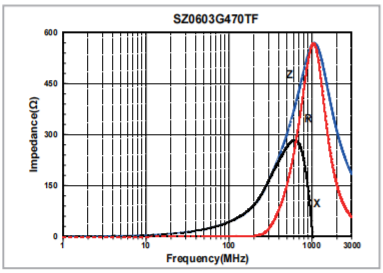


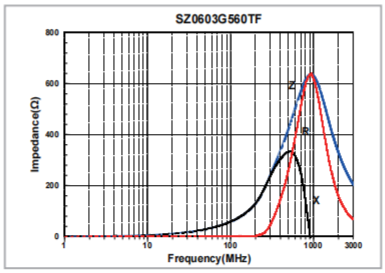


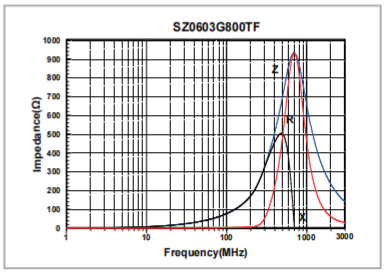


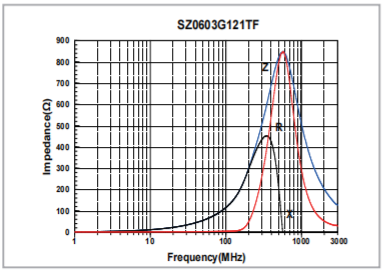


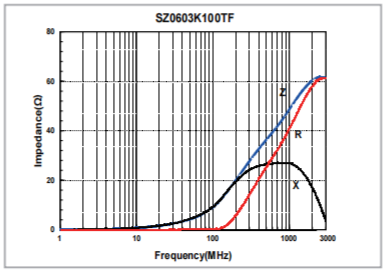


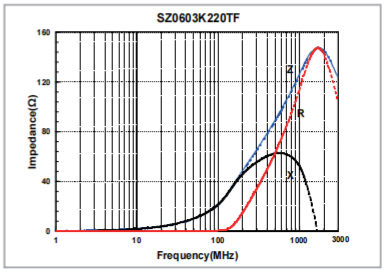






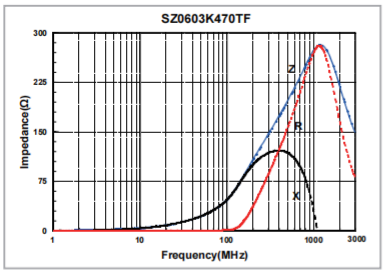


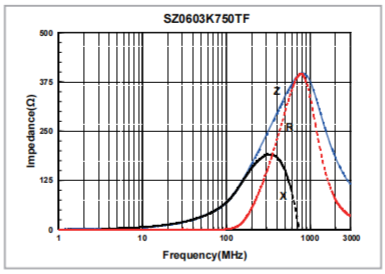


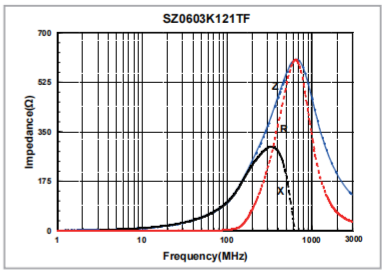


DETAIL ELECTRICAL CHARACTERISTICS

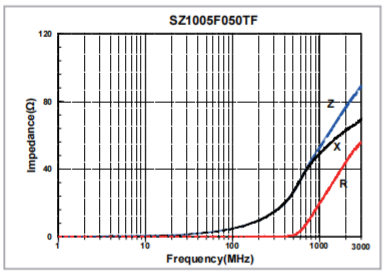
SZ0603 TYPE

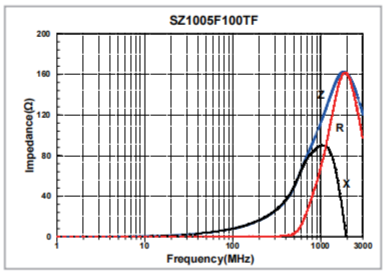


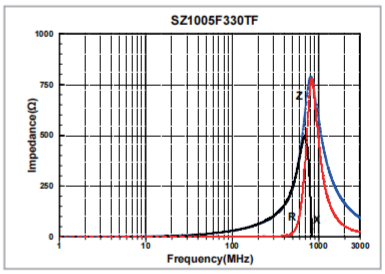


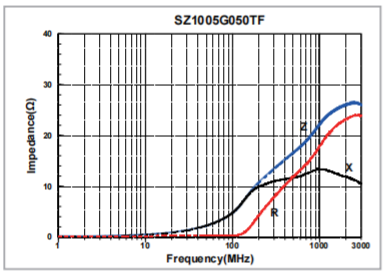


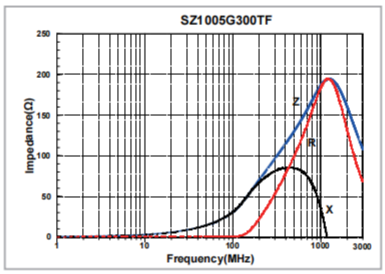
SZ1005 TYPE

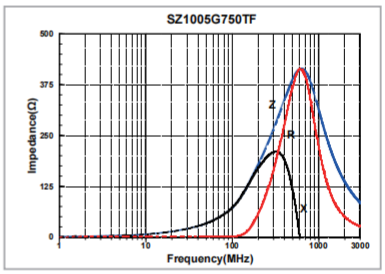


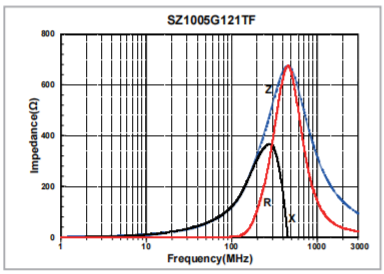


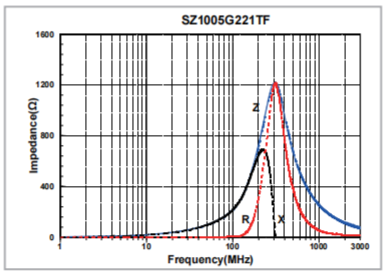


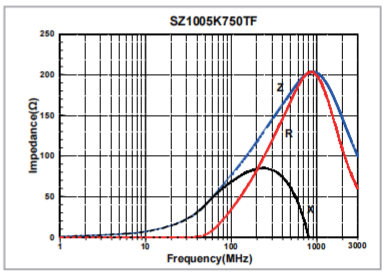


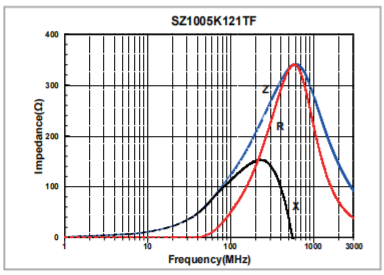


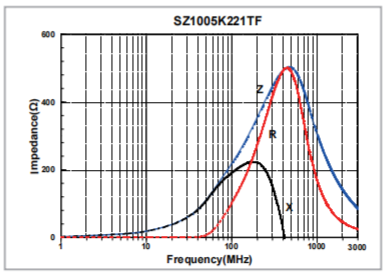


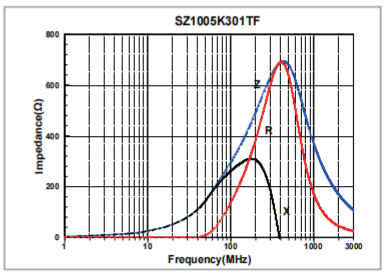






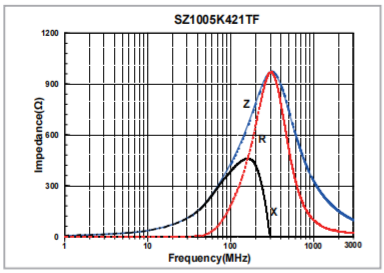


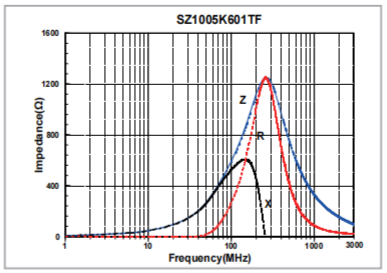


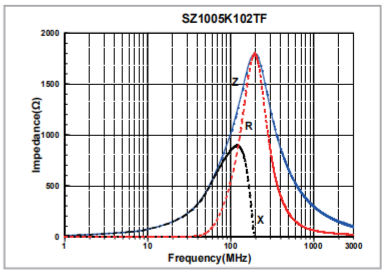


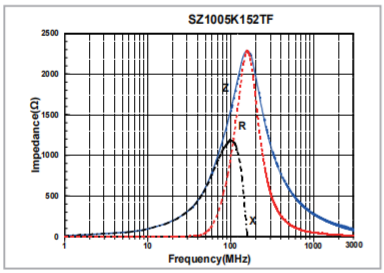
DETAIL ELECTRICAL CHARACTERISTICS

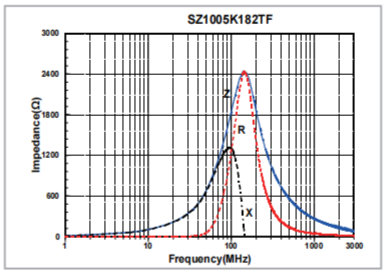
SZ1005 TYPE



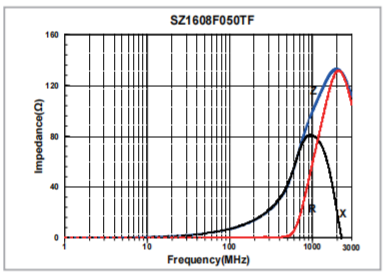


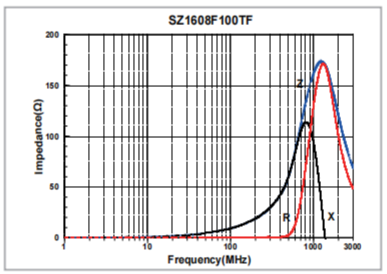


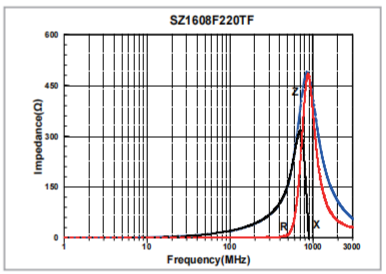


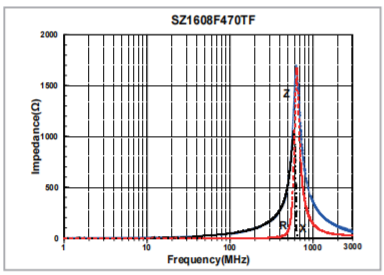


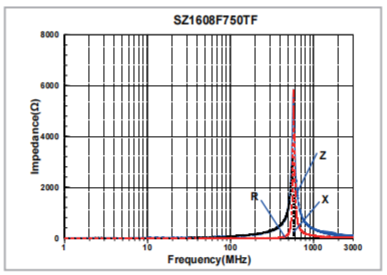
SZ1608 TYPE

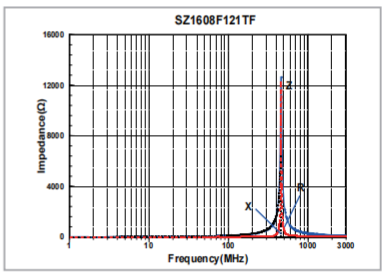


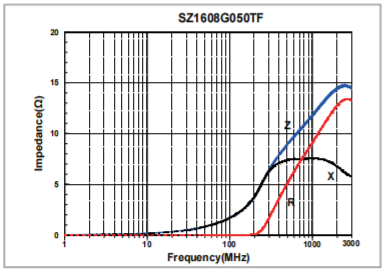


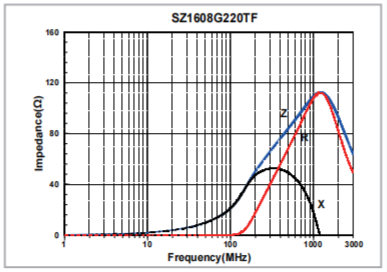


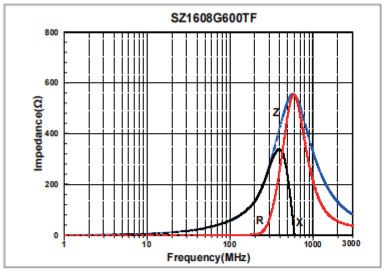






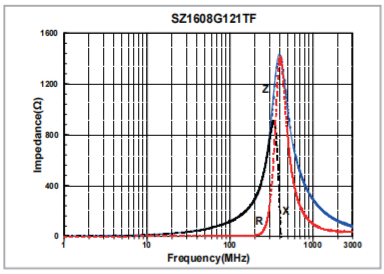


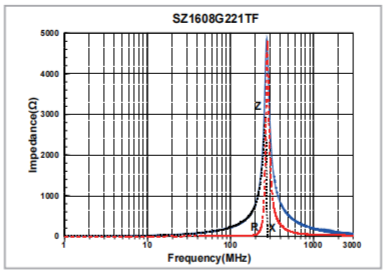


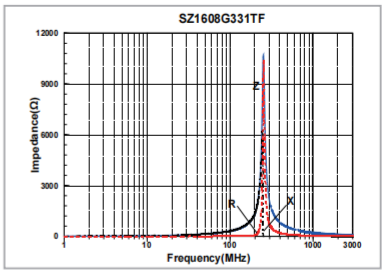


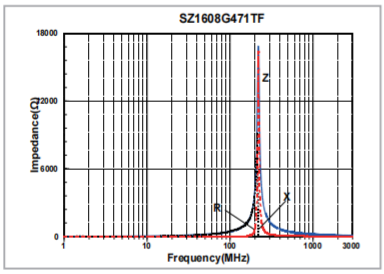
DETAIL ELECTRICAL CHARACTERISTICS

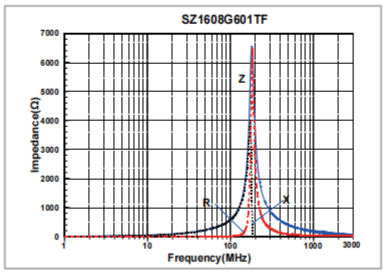
SZ1608 TYPE

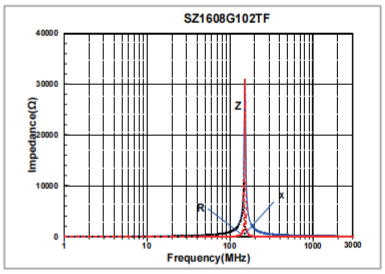


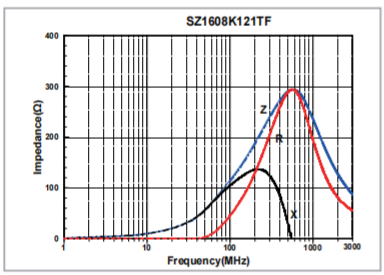


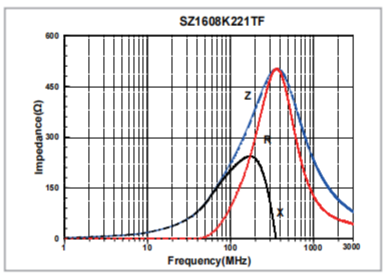


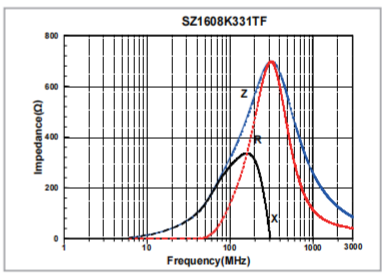


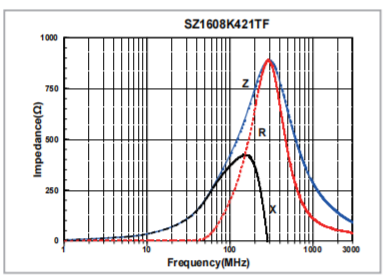


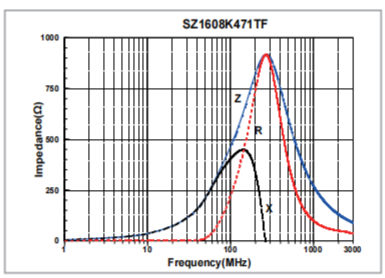


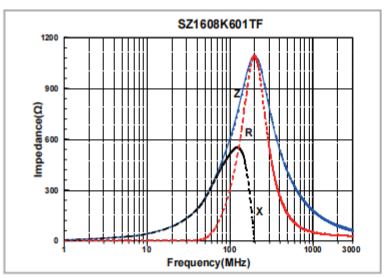


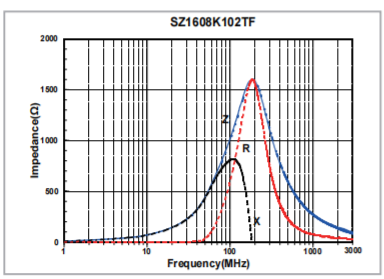


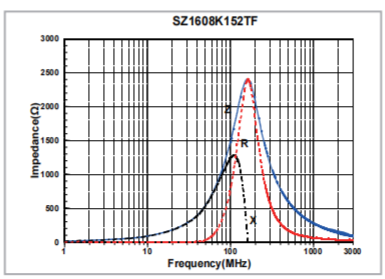


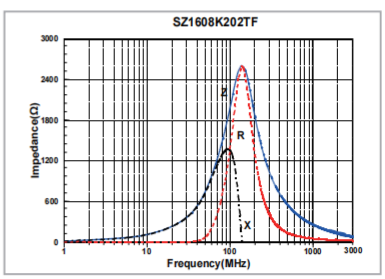


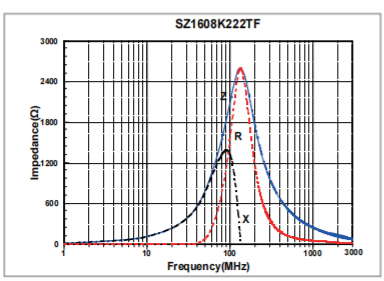


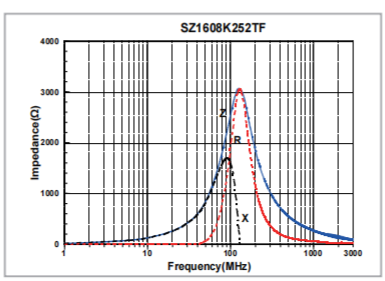


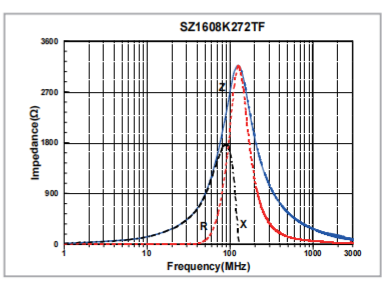






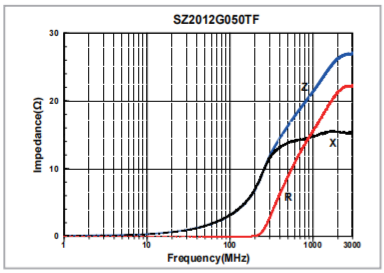


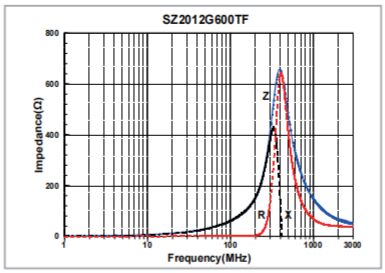


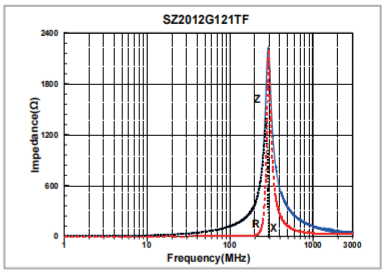


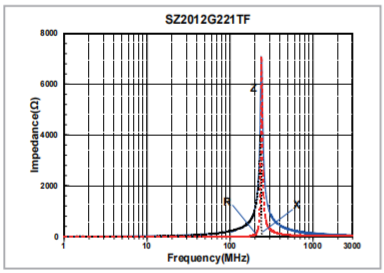
DETAIL ELECTRICAL CHARACTERISTICS

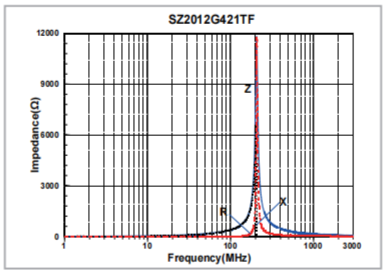
SZ2012 TYPE

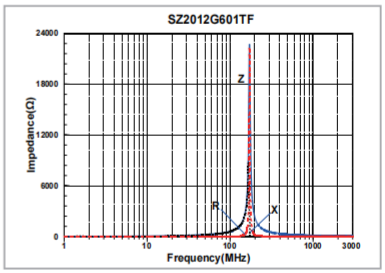


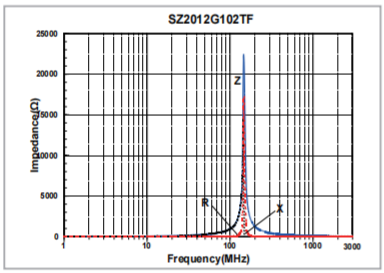


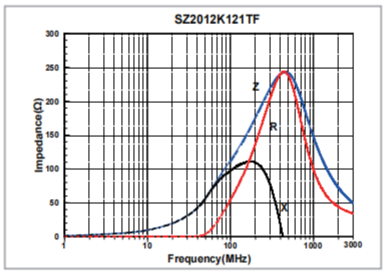


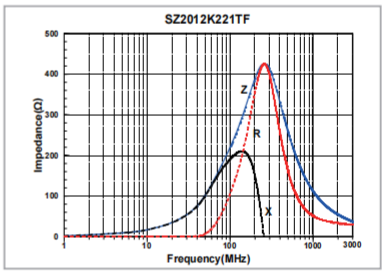


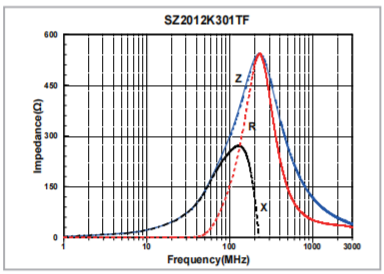


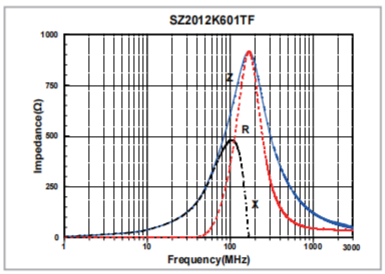


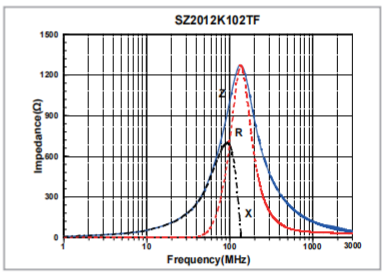


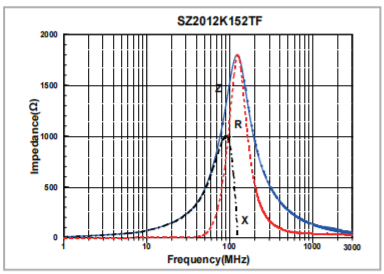


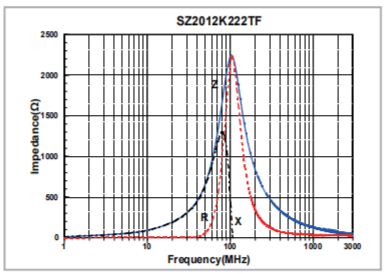


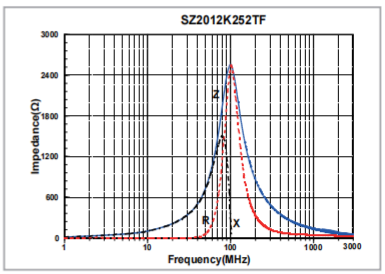


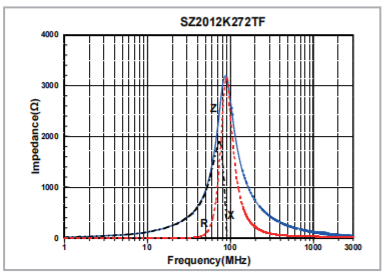












Multilayer Chip Ferrite Bead – SZ-C Series

Operating temp. : -55°C ~+125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk
- It has sharp impedance characteristics at desirable frequency and does not affect the signal frequency
- Smaller DC resistance and larger rate current than SZ series

APPLICATIONS

- Noise suppression for high speed signal of electric equipments such as computers and peripheral devices, Set-Top-Box, LCD TVs, communication equipments, OA equipments, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
SZ	1608	G	121	C	T	F

1

Type	
SZ	Chip Ferrite Bead For High Speed

2

External Dimensions (L×W) (mm)	
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8

3

Material Code
G, K

4

Nominal Impedance	
Example	Nominal Value
600	60Ω
121	120Ω

5

Feature Code
C

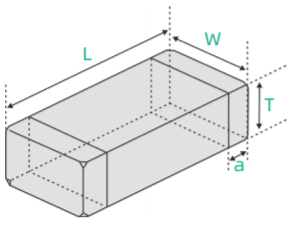
6

Packing	
T	Tape & Reel

7

Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
SZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
SZ1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]

SPECIFICATIONS

SZ1005-C TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
SZ1005G050CTF	0~15	100	0.08	500	0.5±0.15 [.020±.006]
SZ1005G221CTF	220±25%	100	0.60	250	
SZ1005K750CTF	75±25%	100	0.20	600	
SZ1005K121CTF	120±25%	100	0.30	400	
SZ1005K221CTF	220±25%	100	0.40	300	
SZ1005K301CTF	300±25%	100	0.55	300	
SZ1005K471CTF	470±25%	100	0.60	200	
SZ1005K601CTF	600±25%	100	0.65	200	
SZ1005K102CTF	1000±25%	100	0.90	200	
SZ1005K152CTF	1500±25%	100	1.20	100	
SZ1005K182CTF	1800±25%	100	1.40	100	

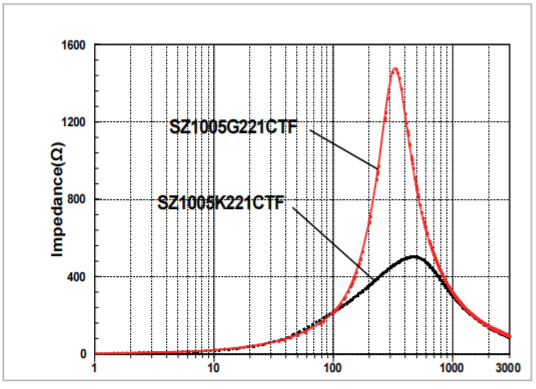
SZ1608-C TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
SZ1608G600CTF	60±25%	100	0.25	800	0.8±0.15 [.031±.006]
SZ1608G121CTF	120±25%	100	0.30	700	
SZ1608G221CTF	220±25%	100	0.45	600	
SZ1608G331CTF	330±25%	100	0.58	550	
SZ1608K601CTF	600±25%	100	0.60	300	
SZ1608K102CTF	1000±25%	100	0.70	250	
SZ1608K152CTF	1500±25%	100	0.75	250	
SZ1608K182CTF	1800±25%	100	0.85	200	
SZ1608K222CTF	2200±25%	100	0.90	200	
SZ1608K252CTF	2500±25%	100	1.00	200	

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

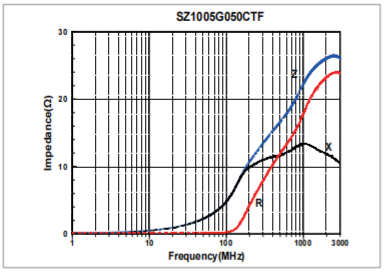
TYPICAL ELECTRICAL CHARACTERISTICS

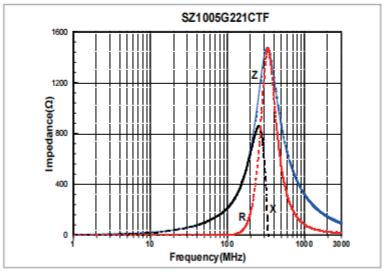
G, K Material Comparison

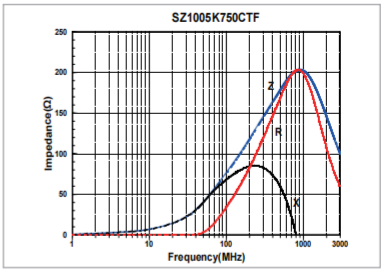


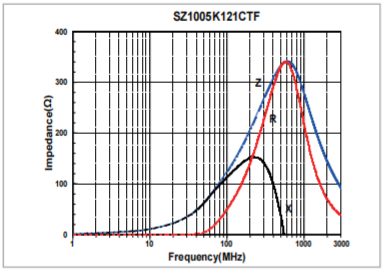
DETAIL ELECTRICAL CHARACTERISTICS

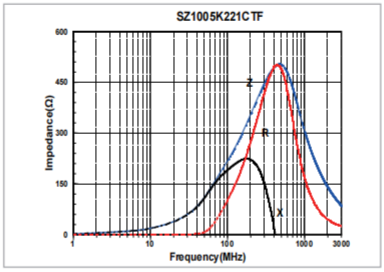
SZ1005-C TYPE

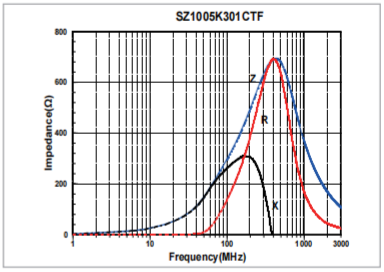


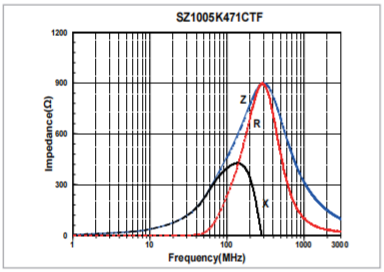


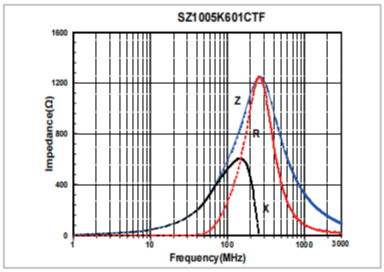


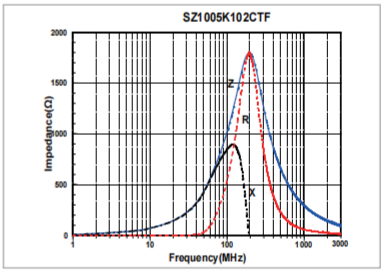


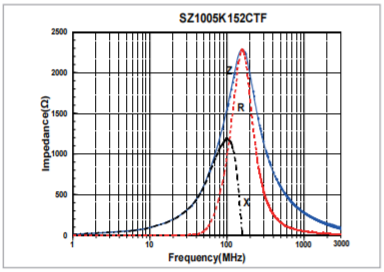


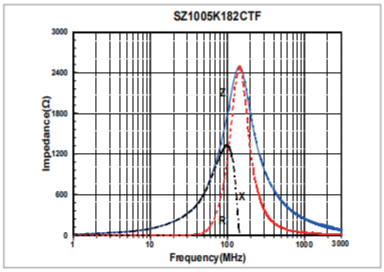




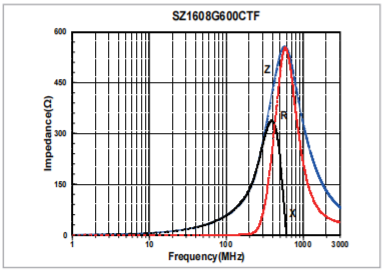


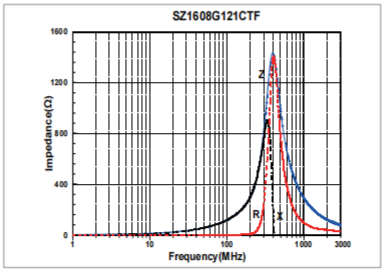


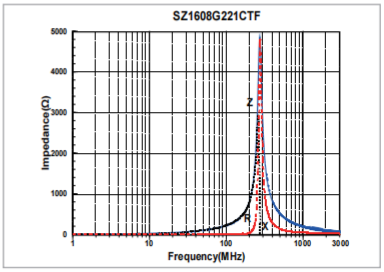




SZ1608-C TYPE

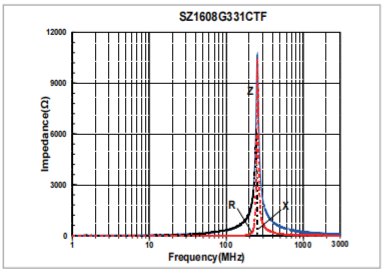


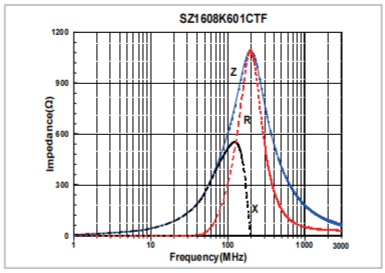


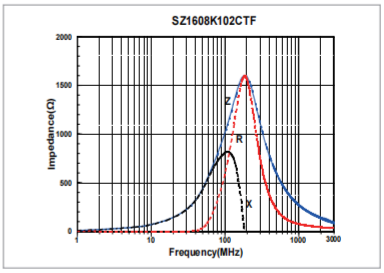


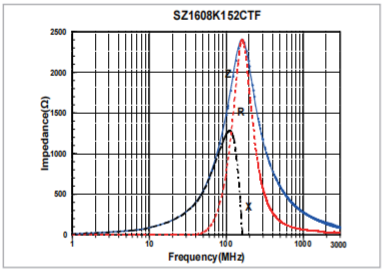
DETAIL ELECTRICAL CHARACTERISTICS

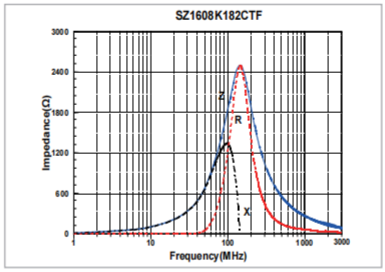
SZ1608-C TYPE

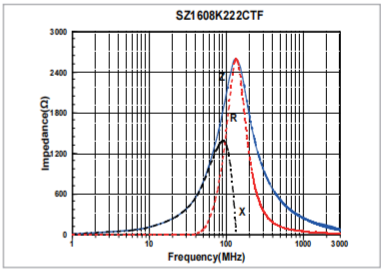


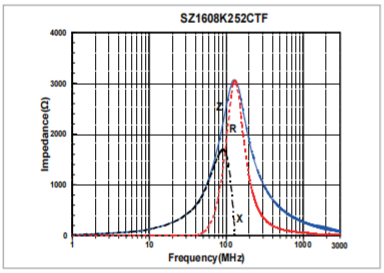












Multilayer Chip Ferrite Bead – PZ Series

Operating temp. : -55°C ~ +125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk.
- Large withstand current (allowable current: up to 6A).
- Can be used in a wide range of frequency to suppress EMI.
- Three types material and wide range of impedance values for various applications.

APPLICATIONS

- Noise suppression for power line or large current signal of electric equipments such as computers and peripheral devices, power adapter, LCD TVs, communication equipments, OA equipments, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7	8
PZ	3216	U	121	-3R0	T	F	(A99)

1

Type	
PZ	Chip Ferrite Bead For Large Current

2

External Dimensions (L×W) (mm)	
0603 [0201]	0.6×0.3
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8
2012 [0805]	2.0×1.25
3216 [1206]	3.2×1.6
4516 [1806]	4.5×1.6

3

Material Code
D, E, U

4

Nominal Impedance	
Example	Nominal Value
300	30Ω
121	120Ω
102	1000Ω

5

Rated Current	
R60	0.6A
2R5	2.5A
3R0	3.0A

6

Packing	
T	Tape & Reel

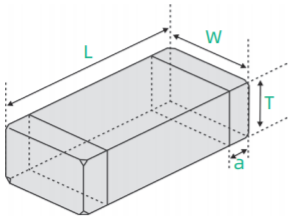
7

Hazardous Substance Free Products
F

8

Internal Code
A99

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
PZ0603 [0201]	0.6±0.05 [.024±.002]	0.3±0.05 [.012±.002]	0.3±0.05 [.012±.002]	0.15±0.05 [.006±.002]
PZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
PZ1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]
PZ2012 [0805]	2.0 (+0.3, -0.1) [.079 (+.012, -.004)]	1.25±0.2 [.049±.008]	0.85±0.2 [.033±.008]	0.5±0.3 [.020±.012]
PZ3216 [1206]	3.2±0.2 [.126±.008]	1.6±0.2 [.063±.008]	0.85±0.2 [.033±.008]	0.5±0.3 [.020±.012]
			1.1±0.2 [.043±.008]	
PZ4516 [1806]	4.5±0.2 [.178±.008]	1.6±0.2 [.063±.008]	1.6±0.2 [.063±.008]	0.5±0.3 [.020±.012]

SPECIFICATIONS

PZ0603 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
PZ0603D600-R50TF	60±25%	100	0.18	500	0.3±0.05 [.012±.002]
PZ0603D800-R50TF	80±25%	100	0.20	500	
PZ0603D121-R45TF	120±25%	100	0.25	450	
PZ0603D241-R35TF	240±25%	100	0.41	350	
PZ0603D601-R25TF	600±25%	100	1.00	250	
PZ0603D102-R20TF	1000±25%	100	1.40	200	
PZ0603U100-1R0TF	5~15	100	0.05	1000	
PZ0603U800-R50TF	80±25%	100	0.18	500	
PZ0603U121-R45TF	120±25%	100	0.23	450	
PZ0603U241-R35TF	240±25%	100	0.38	350	

PZ1005 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
PZ1005D100-1R0TF	0~30	100	0.05	1000	0.5±0.15 [.020±.006]
PZ1005E100-1R8TF	0~15	100	0.02	1800	
PZ1005E700-R80TF	70±25%	100	0.10	800	
PZ1005E121-R70TF	120±25%	100	0.13	700	
PZ1005E221-R60TF	220±25%	100	0.18	600	
PZ1005E601-R45TF	600±25%	100	0.34	450	
PZ1005U700-1R2TF	70±25%	100	0.10	1200	
PZ1005U121-1R0TF	120±25%	100	0.12	1000	
PZ1005U221-R80TF	220±25%	100	0.18	800	
PZ1005U601-R45TF	600±25%	100	0.34	450	

PZ1608 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
PZ1608D300-3R0TF	30±25%	100	0.03	3000	0.8±0.15 [.031±.006]
PZ1608D600-2R0TF	60±25%	100	0.08	2000	
PZ1608D750-1R0TF	75±25%	100	0.15	1000	
PZ1608D121-1R0TF	120±25%	100	0.20	1000	
PZ1608D221-1R0TF	220±25%	100	0.20	1000	
PZ1608D601-R50TF	600±25%	100	0.35	500	
PZ1608E600-1R4TF	60±25%	100	0.10	1400	
PZ1608U100-3R0TF	0~15	100	0.02	3000	
PZ1608U300-3R0TF	30±25%	100	0.03	3000	
PZ1608U600-2R5TF	60±25%	100	0.04	2500	
PZ1608U121-2R0TF	120±25%	100	0.05	2000	
PZ1608U221-1R4TF	220±25%	100	0.10	1400	
PZ1608U331-1R2TF	330±25%	100	0.14	1200	
PZ1608U391-1R0TF	390±25%	100	0.14	1000	
PZ1608U471-1R0TF	470±25%	100	0.20	1000	

SPECIFICATIONS

PZ2012 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
PZ2012D390-4R0TF	39±25%	100	0.02	4000	0.85±0.2 [.033±.008]
PZ2012D800-3R0TF	80±25%	100	0.04	3000	
PZ2012D121-2R5TF	120±25%	100	0.06	2500	
PZ2012D221-1R5TF	220±25%	100	0.08	1500	
PZ2012D301-1R5TF	300±25%	100	0.12	1500	
PZ2012D471-R80TF	470±25%	100	0.25	800	
PZ2012D601-R80TF	600±25%	100	0.25	800	
PZ2012U300-3R0TF	30±25%	100	0.02	3000	
PZ2012U300-4R0TF	30±25%	100	0.015	4000	
PZ2012U600-3R0TF	60±25%	100	0.025	3000	
PZ2012U121-2R5TF	120±25%	100	0.04	2500	
PZ2012U221-2R0TF	220±25%	100	0.07	2000	
PZ2012U301-1R5TF	300±25%	100	0.10	1500	
PZ2012U421-1R0TF	420±25%	100	0.20	1000	
PZ2012U601-R80TF	600±25%	100	0.25	800	

PZ3216 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
PZ3216D190-6R0TF	19±25%	100	0.010	6000	0.85±0.2 [.033±.008]
PZ3216D600-4R0TF	60±25%	100	0.02	4000	
PZ3216U300-6R0TF	30±25%	100	0.01	6000	
PZ3216U600-4R0TF	60±25%	100	0.025	4000	
PZ3216U221-2R0TF	220±25%	100	0.08	2000	
PZ3216U301-2R0TF	300±25%	100	0.10	2000	
PZ3216U391-2R0TF	390±25%	100	0.07	2000	
PZ3216U601-1R5TF	600±25%	100	0.10	1500	
PZ3216U102-R50TF	1000±25%	100	0.30	500	
PZ3216D000-4R0TFA99	0~10	100	0.02	4000	1.1±0.2 [.043±.008]
PZ3216D050-6R0TFA99	0~15	100	0.01	6000	
PZ3216D100-6R0TFA99	0~20	100	0.01	6000	
PZ3216D190-2R0TFA99	19±25%	100	0.05	2000	
PZ3216D310-3R0TFA99	31±25%	100	0.045	3000	
PZ3216D380-5R0TFA99	38±25%	100	0.015	5000	
PZ3216D500-4R0TFA99	50±25%	100	0.02	4000	
PZ3216D600-2R5TFA99	60±25%	100	0.025	2500	
PZ3216D700-3R0TFA99	70±25%	100	0.03	3000	
PZ3216D800-3R0TFA99	80±25%	100	0.03	3000	
PZ3216D900-2R0TFA99	90±25%	100	0.08	2000	
PZ3216D101-3R0TFA99	100±25%	100	0.03	3000	
PZ3216D121-3R0TFA99	120±25%	100	0.03	3000	
PZ3216D151-3R0TFA99	150±25%	100	0.03	3000	
PZ3216D391-2R5TFA99	390±25%	100	0.05	2500	
PZ3216D501-2R0TFA99	500±25%	100	0.07	2000	
PZ3216D601-2R0TFA99	600±25%	100	0.07	2000	
PZ3216U310-6R0TFA99	31±25%	100	0.01	6000	
PZ3216U500-4R0TFA99	50±25%	100	0.02	4000	
PZ3216U600-1R5TFA99	60±25%	100	0.03	1500	
PZ3216U121-3R0TFA99	120±25%	100	0.03	3000	
PZ3216U102-1R0TFA99	1000±25%	100	0.30	1000	

SPECIFICATIONS

PZ3216 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
PZ3216U501-2R0TFA99	500±25%	100	0.07	2000	1.6±0.2 [.063±.008]

Note: The thickness of PZ3216 series may be increased to 1.1±0.2 mm when the Ir of product increased.

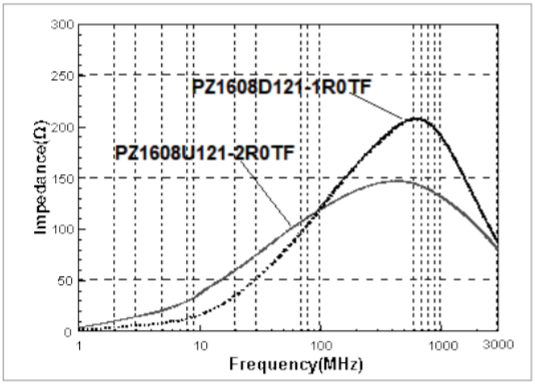
PZ4516 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
PZ4516U600-6R0TF	60±25%	100	0.01	6000	1.6±0.2 [.063±.008]
PZ4516U720-6R0TF	72±25%	100	0.01	6000	
PZ4516U181-3R0TF	180±25%	100	0.025	3000	
PZ4516U471-2R0TF	470±25%	100	0.05	2000	
PZ4516U102-1R5TF	1000±25%	100	0.09	1500	

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

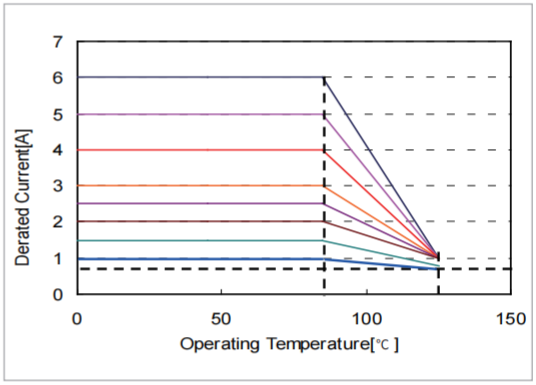
TYPICAL ELECTRICAL CHARACTERISTICS

D, E, U Material Comparison



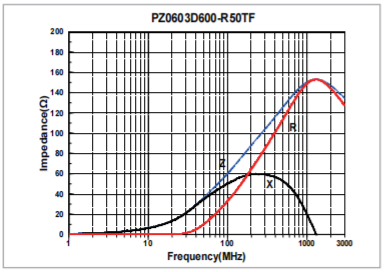
Rated Current

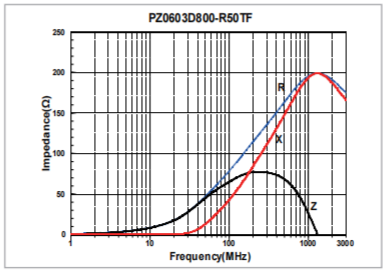
When operating temperatures exceed +85°C , derating of current is necessary for chip ferrite beads for which rated current is 1000mA and over. Please apply the derating curve shown in chart according to the operating temperature.

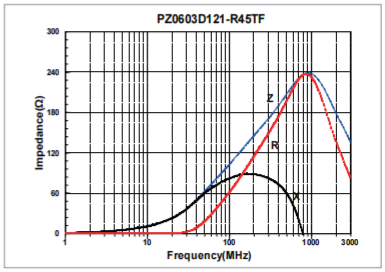


DETAIL ELECTRICAL CHARACTERISTICS

PZ0603 TYPE

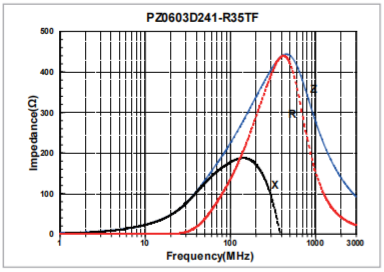


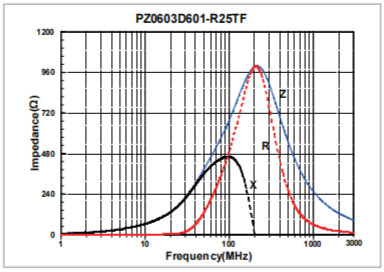


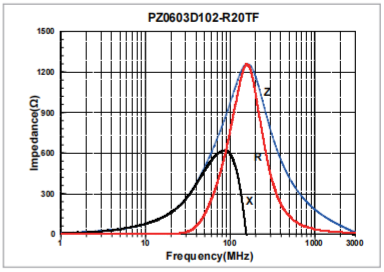


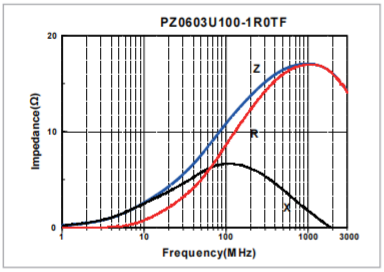
DETAIL ELECTRICAL CHARACTERISTICS

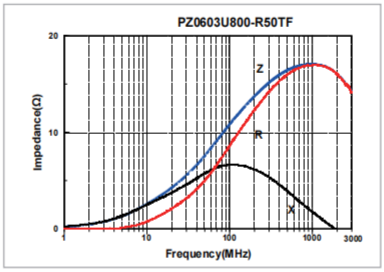
PZ0603 TYPE

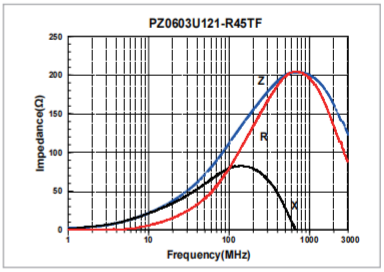


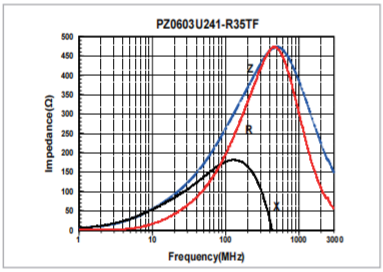




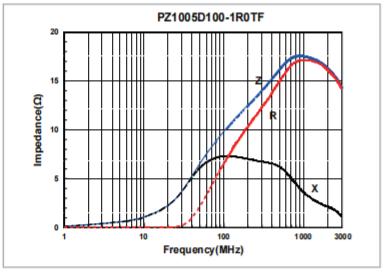


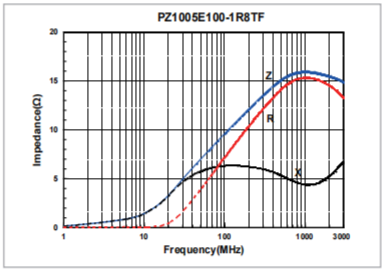


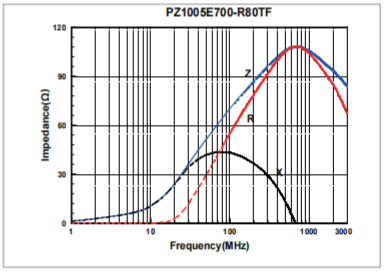


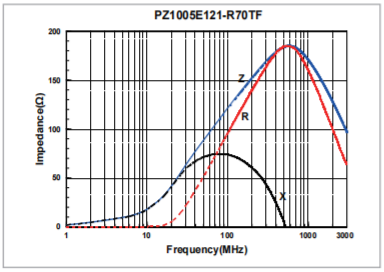


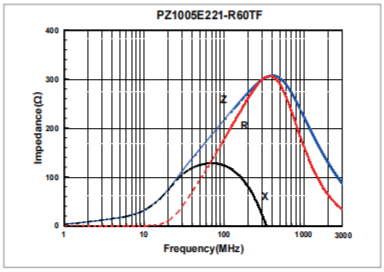
PZ1005 TYPE

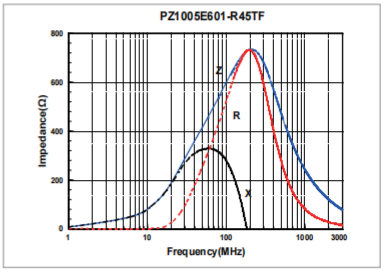






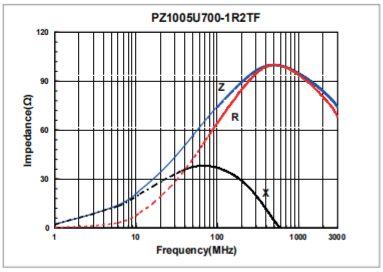


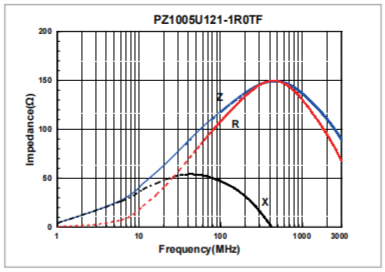


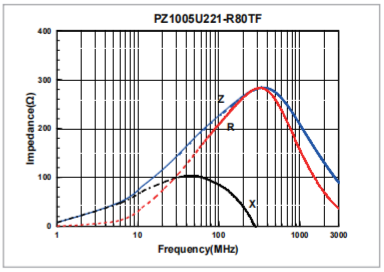


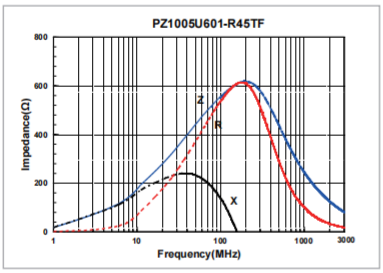
DETAIL ELECTRICAL CHARACTERISTICS

PZ1005 TYPE

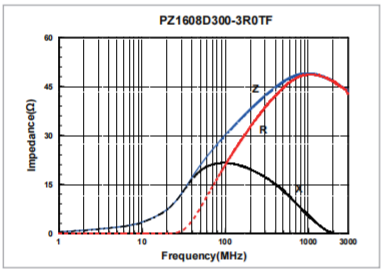


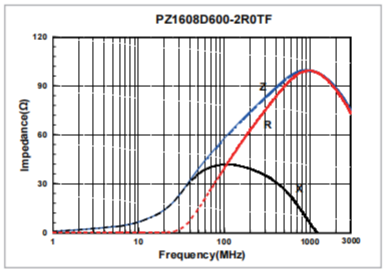


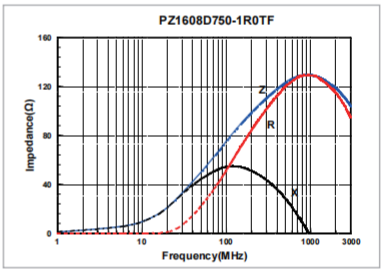


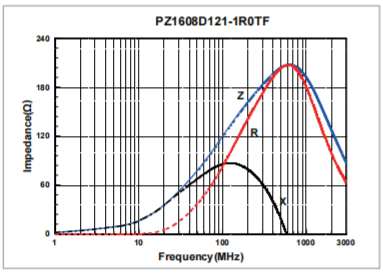


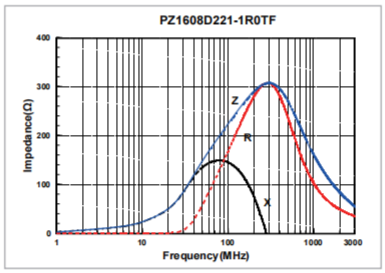
PZ1608 TYPE

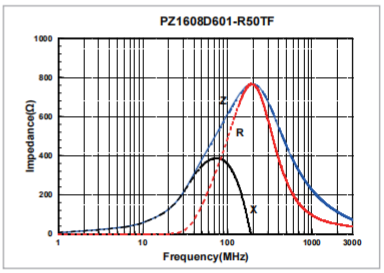


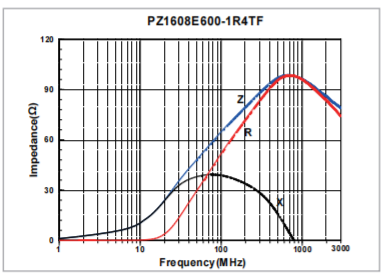


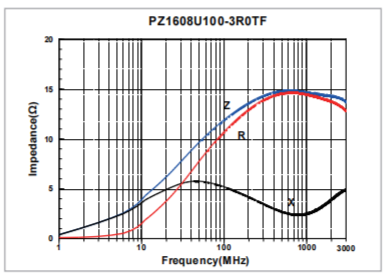


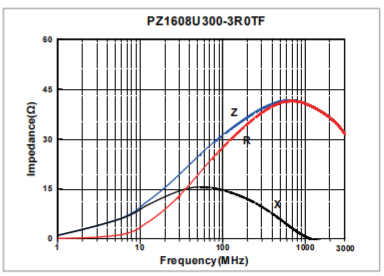






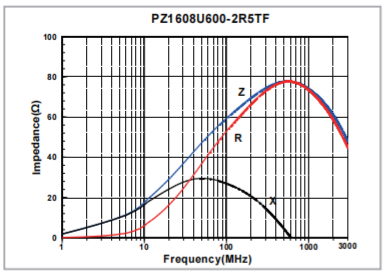


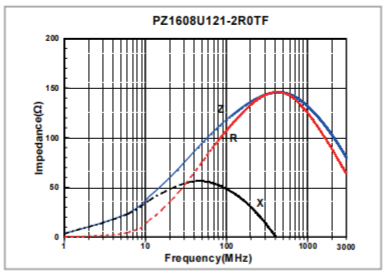


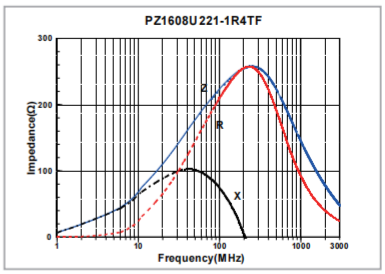


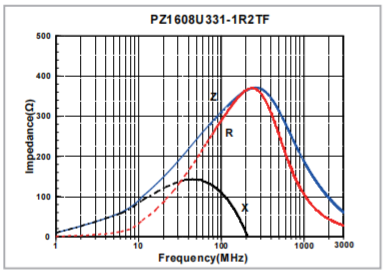
DETAIL ELECTRICAL CHARACTERISTICS

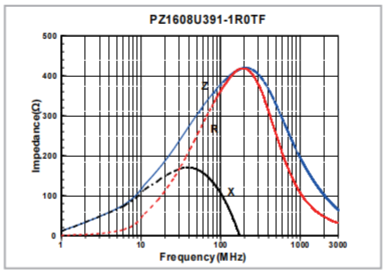
PZ1608 TYPE

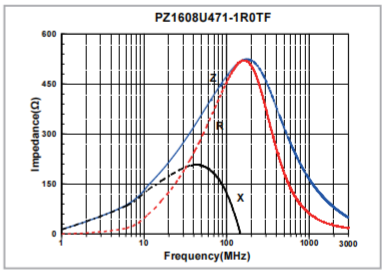




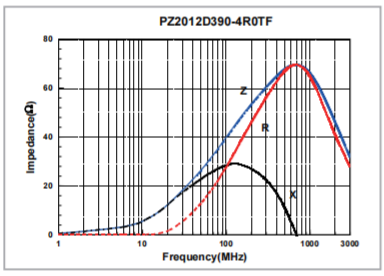


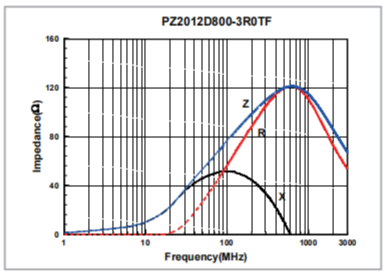


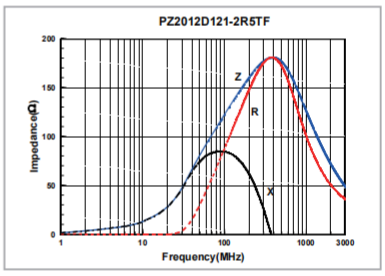


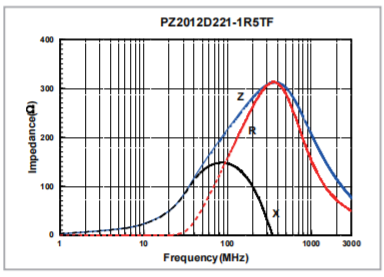


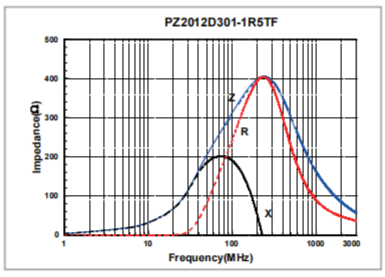
PZ2012 TYPE

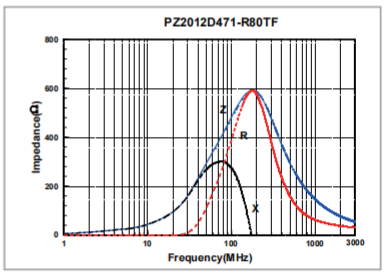


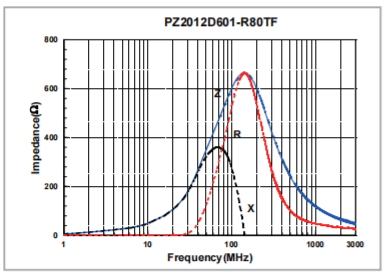


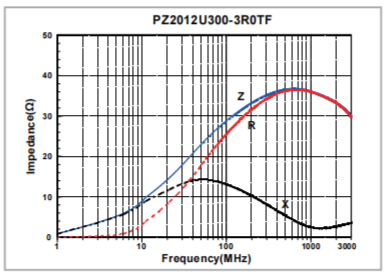


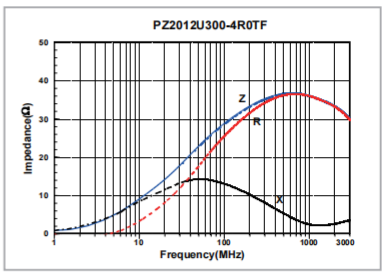






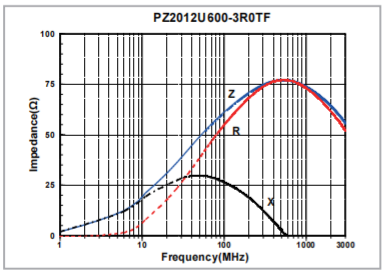


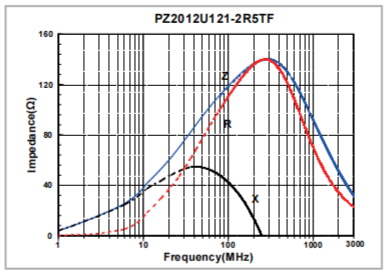


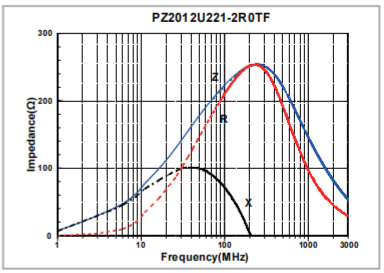


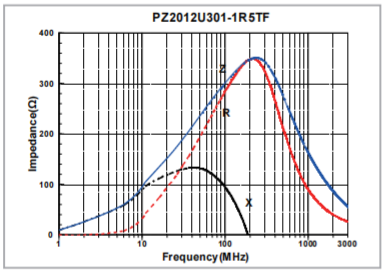
DETAIL ELECTRICAL CHARACTERISTICS

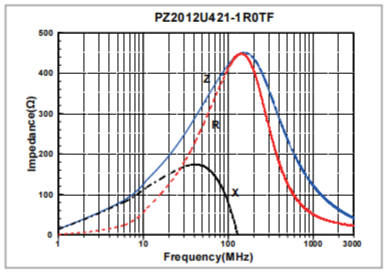
PZ2012 TYPE

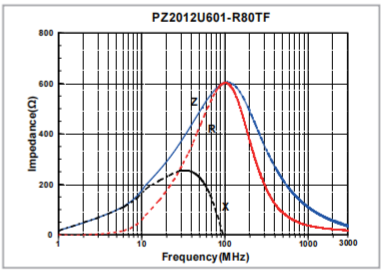




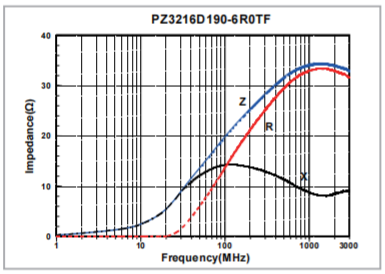


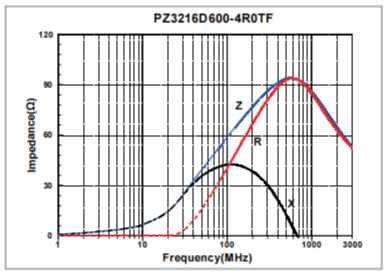


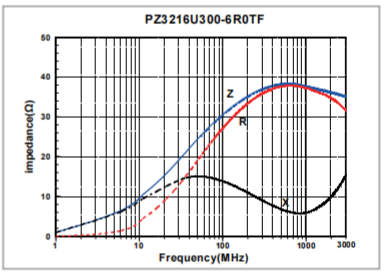


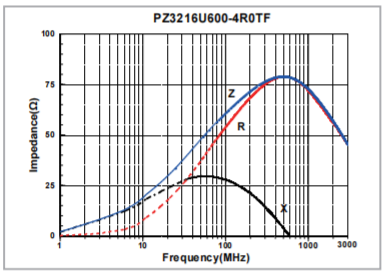


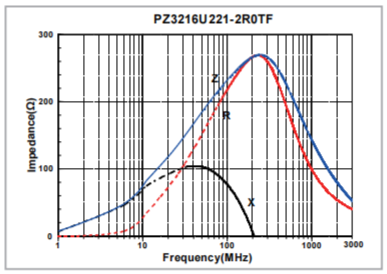
PZ3216 TYPE

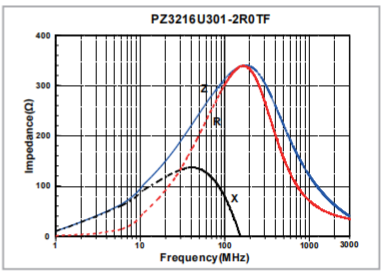


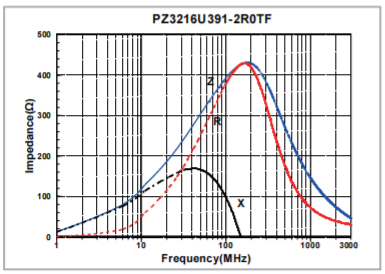


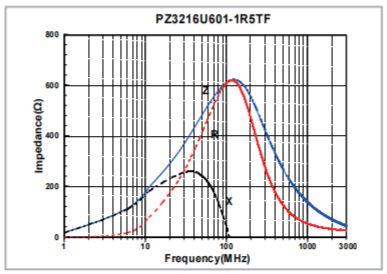


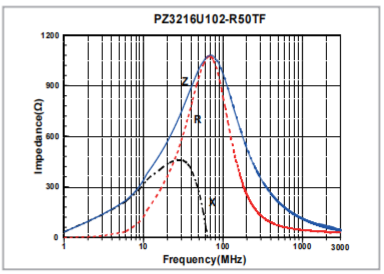






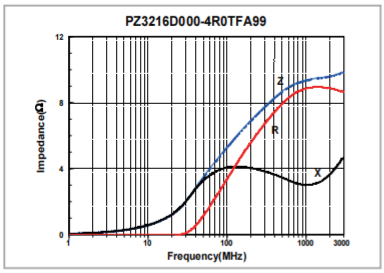


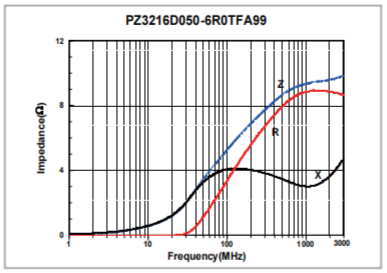


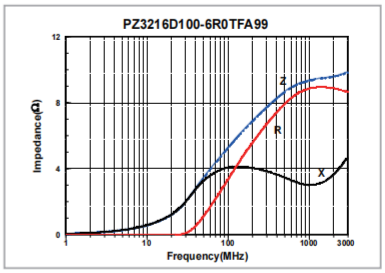


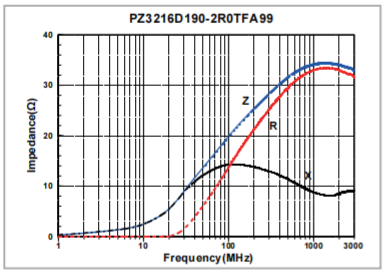
DETAIL ELECTRICAL CHARACTERISTICS

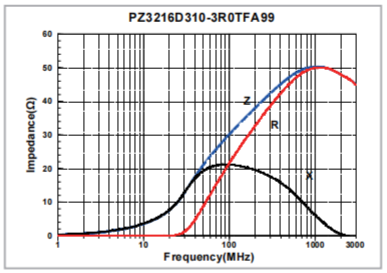
PZ3216 TYPE

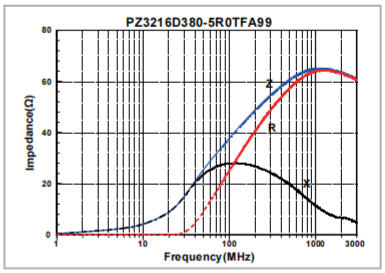


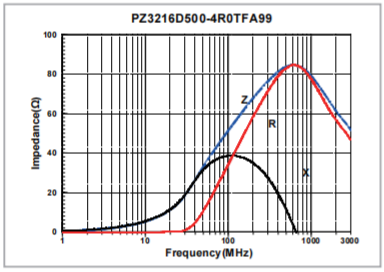


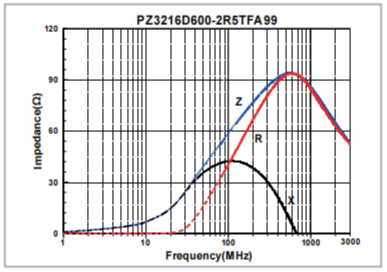


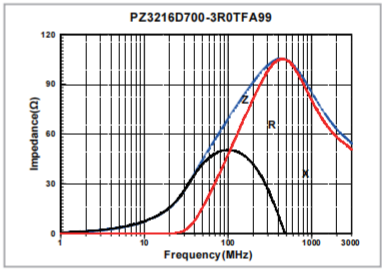


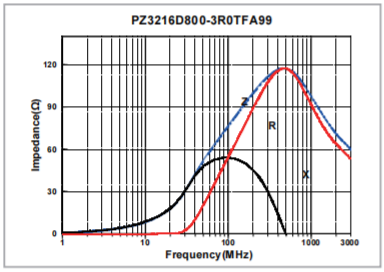


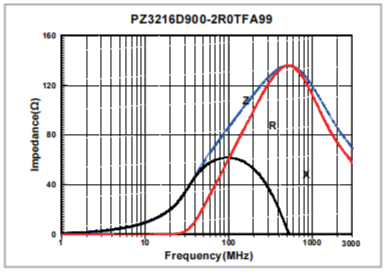


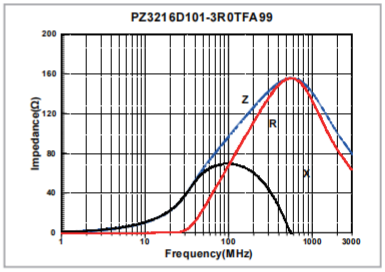


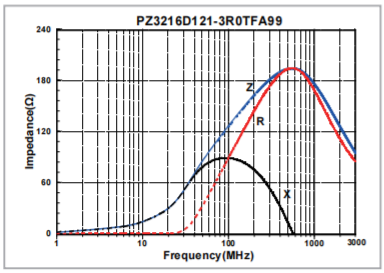


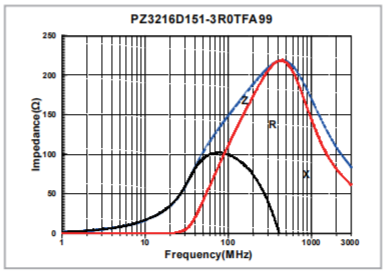


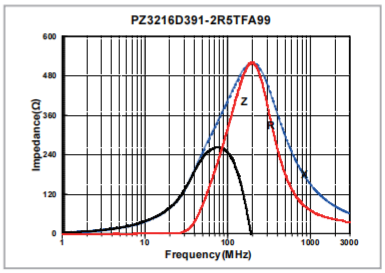


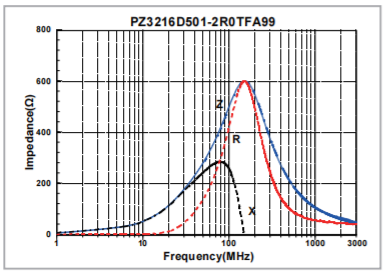


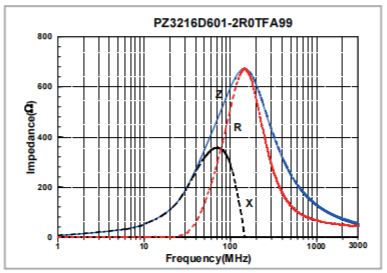


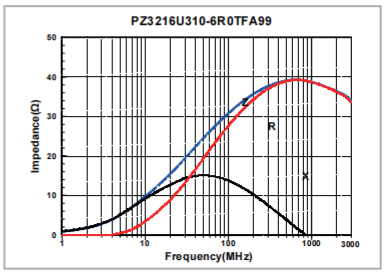






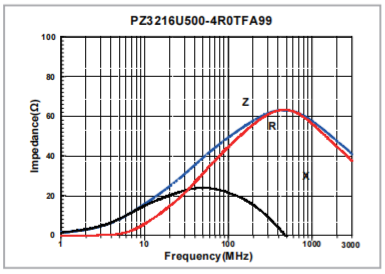


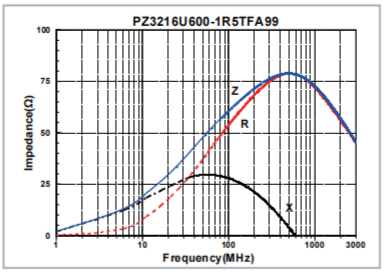


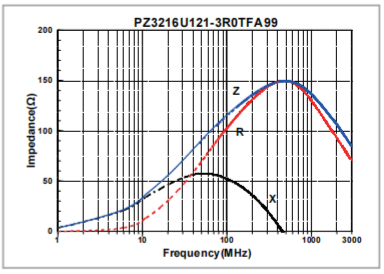


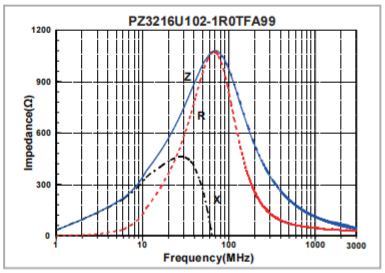
DETAIL ELECTRICAL CHARACTERISTICS

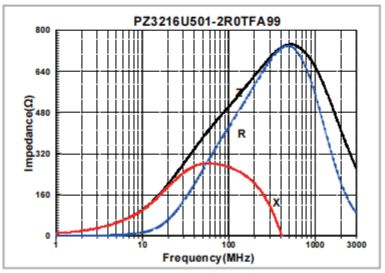
PZ3216 TYPE



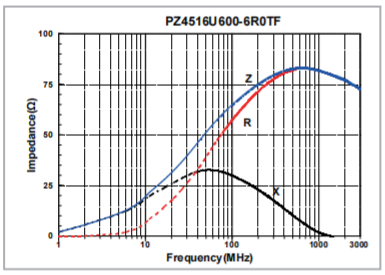


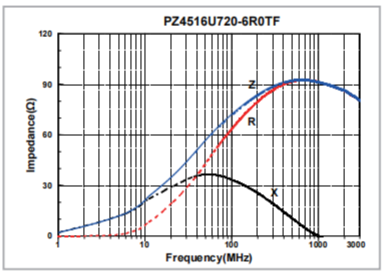


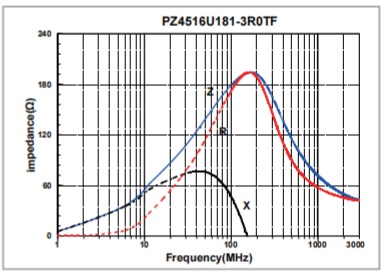


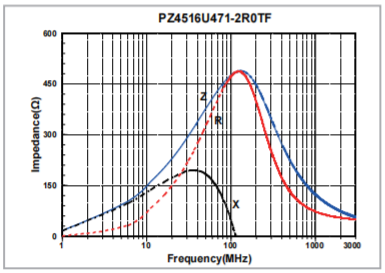


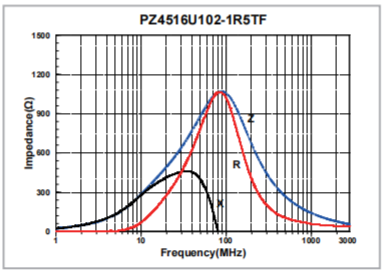
PZ4516 TYPE



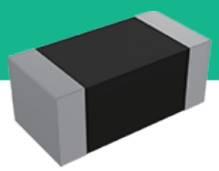








Multilayer Chip Ferrite Bead – UPZ Series



Operating temp. : -55°C ~ +125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk
- Monolithic structure for excellent reliability
- Smaller DC resistance and larger allowable current than PZ series
- Can be used in a wide range of frequency to suppress EMI

APPLICATIONS

- Noise suppression for power lines or large current signal lines of electric equipments, such as communication equipments, computers, A/V equipments, etc

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
UPZ	1608	E	221	-2R2	T	F

1

Type	
UPZ	Chip Ferrite Bead For Ultra Large Current

2

External Dimensions (L×W) (mm)	
0603 [0201]	0.6×0.3
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8
2012 [0805]	2.0×1.25

3

Material Code
G, D, E, U, W

4

Nominal Impedance	
Example	Nominal Value
300	30Ω
221	220Ω
102	1000Ω

5

Rated Current	
1R5	1.5A
2R2	2.2A

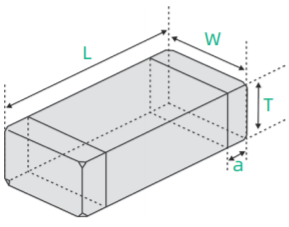
6

Packing	
T	Tape & Reel

7

Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
UPZ0603 [0201]	0.6±0.05 [.024±.002]	0.3±0.05 [.012±.002]	0.3±0.05 [.012±.002]	0.15±0.05 [.006±.002]
UPZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
UPZ1608 [0603]	1.65±0.15 [.065±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]
UPZ2012 [0805]	2.0 (+0.3, -0.1) [.079 (+.012, -.004)]	1.25±0.2 [.049±.008]	0.85±0.2 [.033±.008]	0.5±0.3 [.020±.012]

SPECIFICATIONS

UPZ0603 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	mΩ	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
UPZ0603U220-1R8TF	22±25%	100	40	1800	0.3±0.05 [.012±.002]
UPZ0603U330-1R5TF	33±25%	100	55	1500	
UPZ0603U470-1R0TF	47±25%	100	120	1000	
UPZ0603U800-1R0TF	80±25%	100	130	1000	

UPZ1005 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	mΩ	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
UPZ1005D100-2R0TF	0~30	100	45	2000	0.5±0.15 [.020±.006]
UPZ1005D300-1R7TF	30±25%	100	50	1700	
UPZ1005D300-2R2TF	30±25%	100	35	2200	
UPZ1005D600-1R5TF	60±25%	100	75	1500	
UPZ1005D800-1R5TF	80±25%	100	70	1500	
UPZ1005D121-1R3TF	120±25%	100	90	1300	
UPZ1005D221-R90TF	220±25%	100	160	900	

UPZ1608 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	mΩ	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
UPZ1608G300-1R8TF	30±25%	100	60	1800	0.8±0.15 [.031±.006]
UPZ1608G600-1R2TF	60±25%	100	100	1200	
UPZ1608G101-1R0TF	100±25%	100	150	1000	
UPZ1608U220-6R0TF	22±25%	100	10	6000	
UPZ1608U280-6R0TF	28±25%	100	10	6000	
UPZ1608U700-4R0TF	70±25%	100	20	4000	
UPZ1608U221-2R2TF	220±25%	100	50	2200	
UPZ1608U331-1R5TF	330±25%	100	70	1500	
UPZ1608U391-1R5TF	390±25%	100	120	1500	
UPZ1608U471-1R5TF	470±25%	100	120	1500	
UPZ1608U601-1R3TF	600±25%	100	150	1300	
UPZ1608E300-5R0TF	30±25%	100	10	5000	
UPZ1608E600-3R5TF	60±25%	100	20	3500	
UPZ1608E101-3R0TF	100±25%	100	30	3000	
UPZ1608E181-2R2TF	180±25%	100	50	2200	
UPZ1608E221-2R2TF	220±25%	100	50	2200	
UPZ1608E331-1R7TF	330±25%	100	80	1700	
UPZ1608E601-1R0TF	600±25%	100	150	1000	
UPZ1608W260-6R0TF	26±25%	100	7	6000	

SPECIFICATIONS

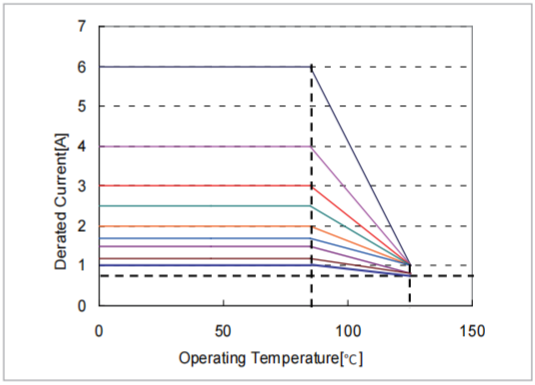
UPZ2012 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	mΩ	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
UPZ2012D220-6R0TF	22±25%	100	10	6000	0.85±0.2 [.033±.008]
UPZ2012D800-4R0TF	80±25%	100	20	4000	
UPZ2012U220-6R0TF	22±25%	100	10	6000	
UPZ2012U300-6R0TF	30±25%	100	10	6000	
UPZ2012U600-4R0TF	60±25%	100	20	4000	
UPZ2012U221-3R0TF	220±25%	100	40	3000	
UPZ2012E300-6R0TF	30±25%	100	10	6000	
UPZ2012E121-4R0TF	120±25%	100	20	4000	
UPZ2012E221-3R0TF	220±25%	100	40	3000	
UPZ2012E331-2R5TF	330±25%	100	50	2500	
UPZ2012E601-2R0TF	600±25%	100	90	2000	
UPZ2012E102-1R5TF	1000±25%	100	120	1500	

TYPICAL ELECTRICAL CHARACTERISTICS

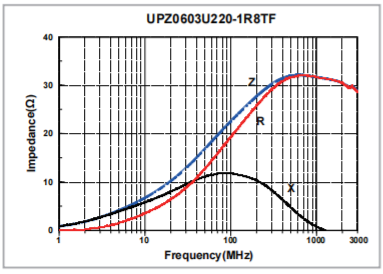
Rated Current

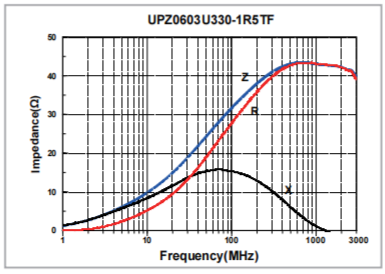
When operating temperatures exceed +85°C , derating of current is necessary for chip ferrite beads for which rated current is 1000mA and over. Please apply the derating curve shown in chart according to the operating temperature.

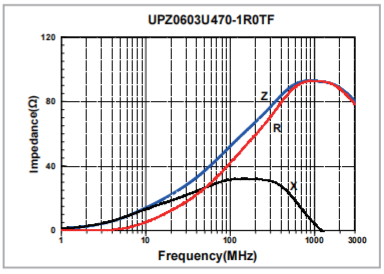


DETAIL ELECTRICAL CHARACTERISTICS

UPZ0603 TYPE

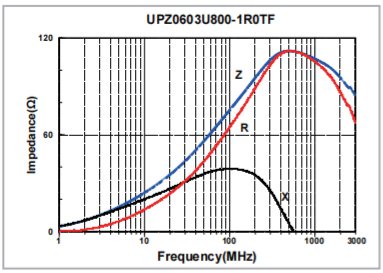




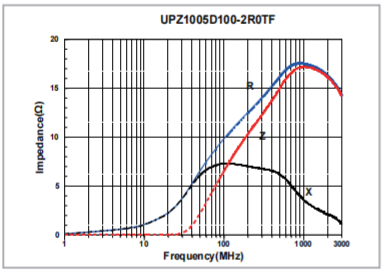


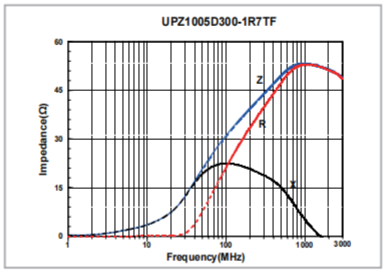
TYPICAL ELECTRICAL CHARACTERISTICS

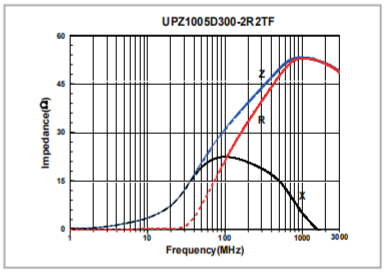
UPZ0603 TYPE

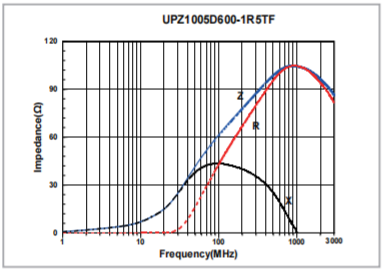


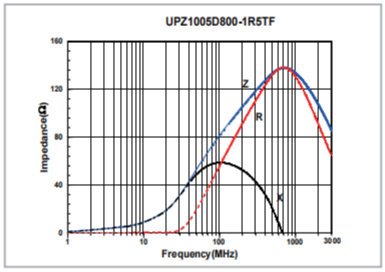
UPZ1005 TYPE

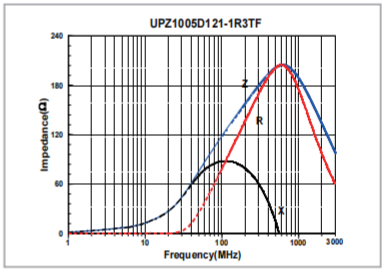


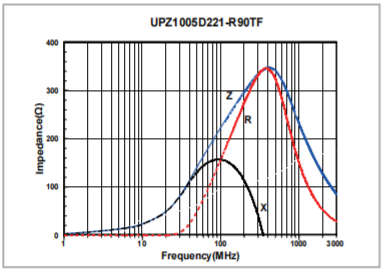




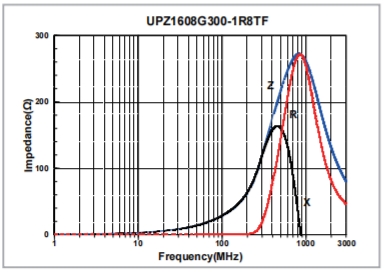


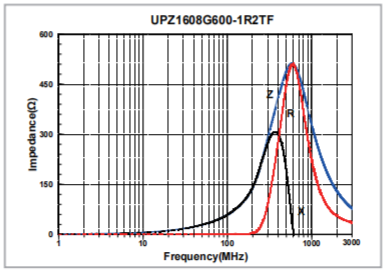


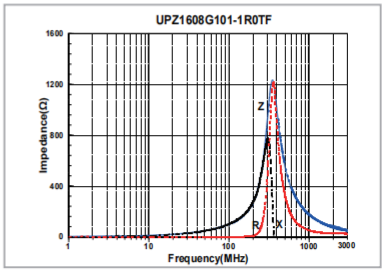




UPZ1608 TYPE

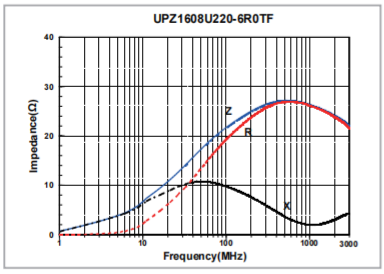


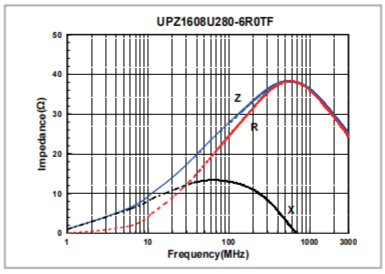


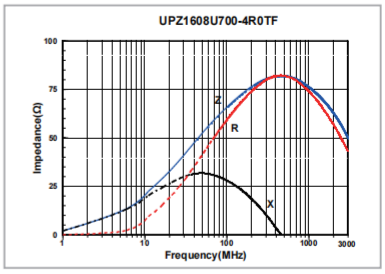


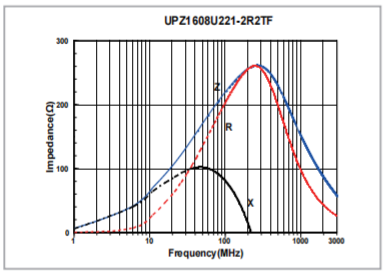
DETAIL ELECTRICAL CHARACTERISTICS

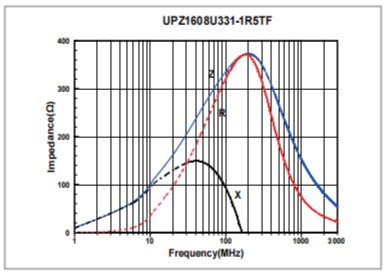
UPZ1608 TYPE

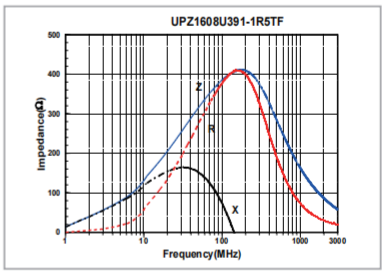


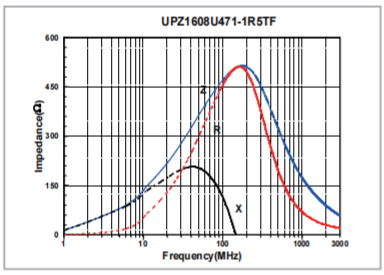


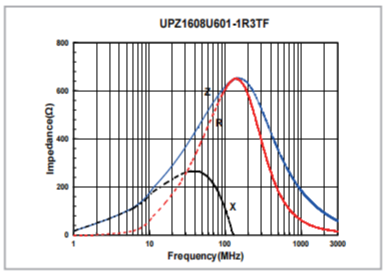


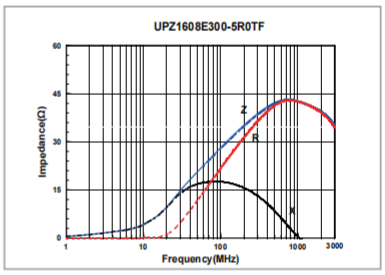


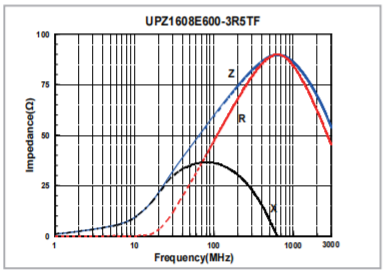


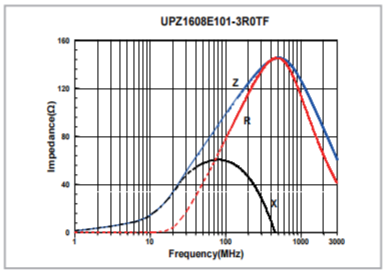


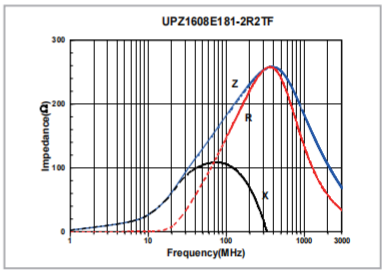


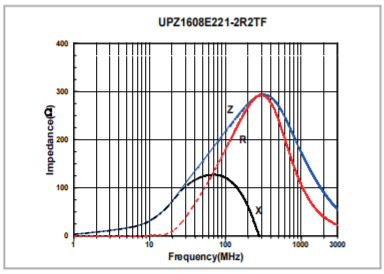


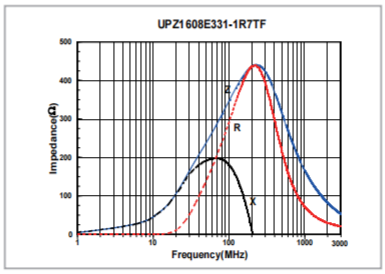


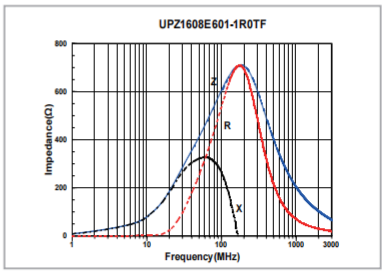






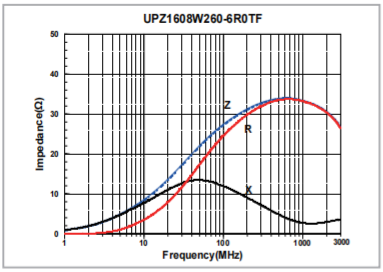




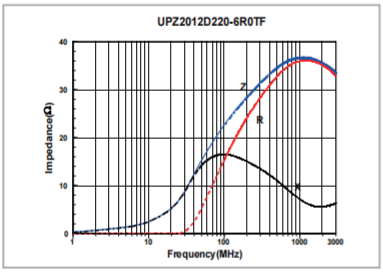


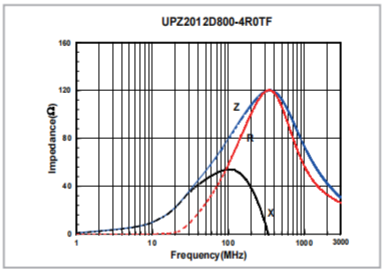
DETAIL ELECTRICAL CHARACTERISTICS

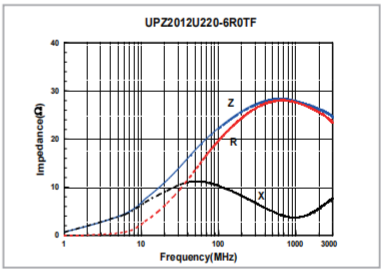
UPZ1608 TYPE

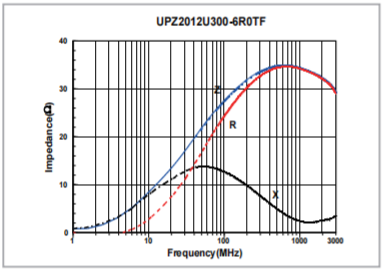


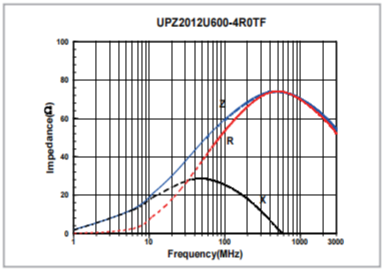
UPZ2012 TYPE

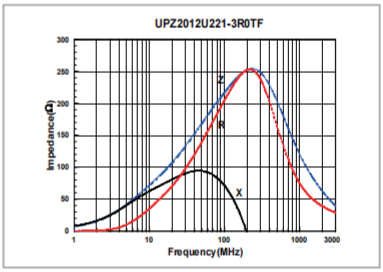


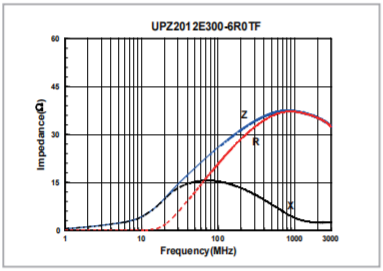


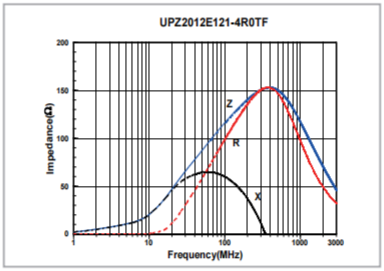


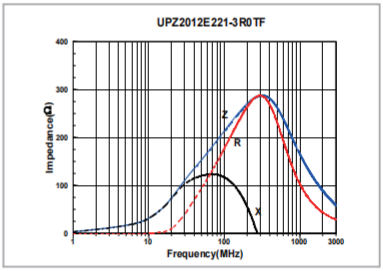


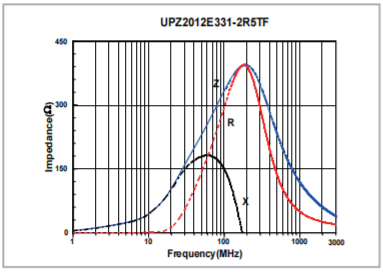


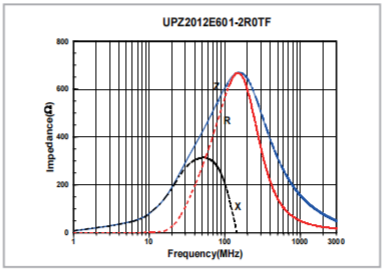


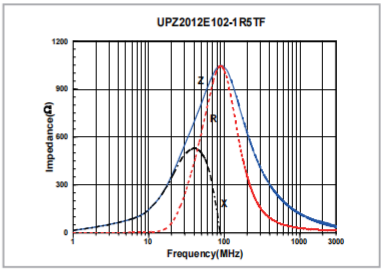












Multilayer Chip Ferrite Bead – EPZ Series

Operating temp. : -55°C ~+125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk.
- Monolithic structure for excellent reliability.
- Smaller DC resistance and larger allowable current than UPZ series.
- Can be used in a wide range of frequency to suppress EMI.

APPLICATIONS

- Noise suppression for power lines or large current signal lines of electric equipments, such as communication equipments, computers,A/V equipments, etc

PRODUCT IDENTIFICATION

1	2	3	4	5	6
EPZ	4030	U	300	-10R0	T

1

Type	
EPZ	Chip Ferrite Bead for Extra High Current

2

External Dimensions (L×W) (mm)	
1005 [0402]	1.0×0.5
4030 [1612]	4.0×3.0

3

Material Code
D,E,U

4

Nominal Impedance	
Example	Nominal Value
300	30Ω
560	56Ω

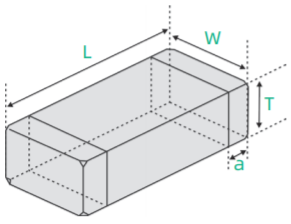
5

Rated Current	
10R0	10A

6

Packing	
T	Tape & Reel

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
EPZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
EPZ4030 [1612]	4.0±0.2 [.158±.008]	3.0±0.2 [.118±.008]	1.6±0.2 [.063±.008]	0.8±0.3 [.031±.012]

SPECIFICATIONS

EPZ1005TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	mΩ	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
EPZ1005D100-3R1T	10±25%	100	18	3100	0.5±0.15 [.020±.006]
EPZ1005D800-2R3T	80±25%	100	38	2300	
EPZ1005D121-2R0T	120±25%	100	50	2000	
EPZ1005E221-1R2T	220±25%	100	100	1200	

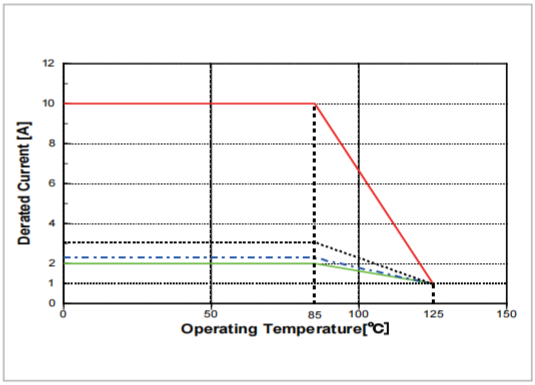
EPZ4030TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	mΩ	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
EPZ4030D300-10R0T	30±25%	100	4	10000	1.6±0.2 [.063±.008]
EPZ4030D400-10R0T	40±25%	100	4	10000	
EPZ4030D560-10R0T	56±25%	100	4	10000	
EPZ4030U300-10R0T	30±25%	100	4	10000	
EPZ4030U360-10R0TB01	36±25%	100	0.75	10000	
EPZ4030U400-10R0T	40±25%	100	4	10000	
EPZ4030U560-10R0T	56±25%	100	4	10000	

TYPICAL ELECTRICAL CHARACTERISTICS

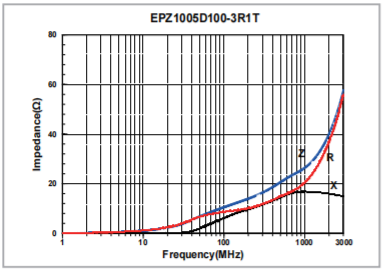
Rated Current

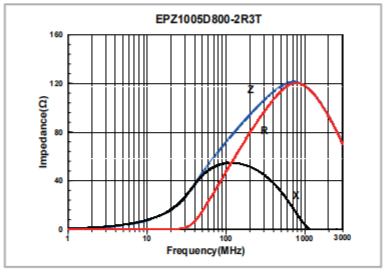
When operating temperatures exceed +85℃ , derating of current is necessary for chip ferrite beads for which rated current is 1000mA and over. Please apply the derating curve shown in chart according to the operating temperature.

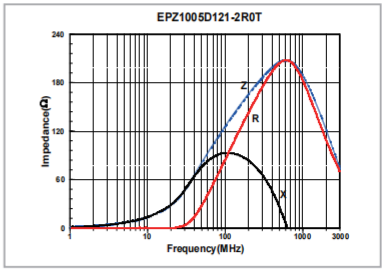


DETAIL ELECTRICAL CHARACTERISTICS

EPZ1005 TYPE

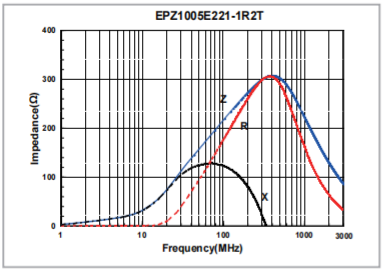




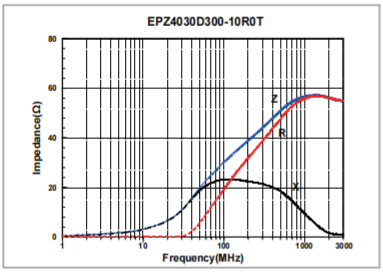


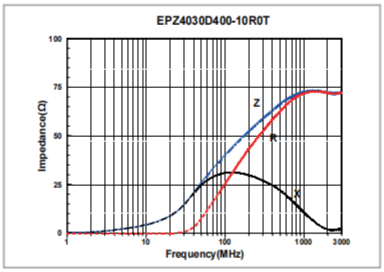
DETAIL ELECTRICAL CHARACTERISTICS

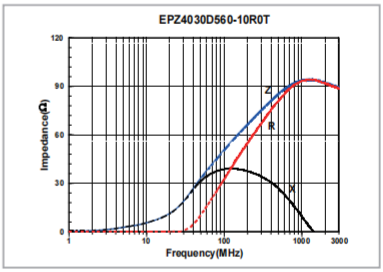
EPZ1005 TYPE

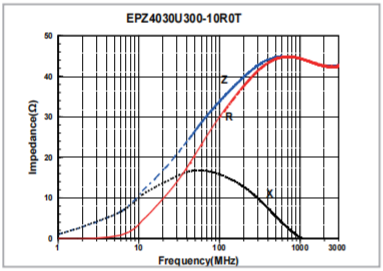


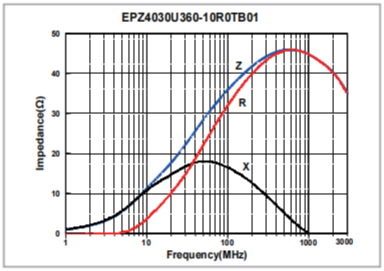
EPZ4030 TYPE

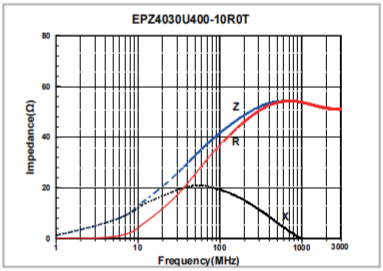


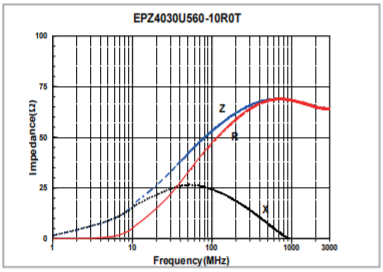












Multilayer Chip Ferrite Bead – HZ Series

Operating temp. : -55°C ~ +125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk.
- Perfect effect for EMI suppression at high frequency (≥1GHz) due to its high impedance.
- Four types material and wide range of impedance values for various applications.

APPLICATIONS

- High frequency noise suppression in electric equipments such as computer and peripheral devices, residential gateway, LCD TVs, communication equipments, OA equipments, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
HZ	1005	K	601	T	F	□□□

1

Type	
HZ	Chip Ferrite Bead for High Frequency

2

External Dimensions (L×W) (mm)	
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8

3

Material Code
G, K, D, U

5

Packing	
T	Tape & Reel

4

Nominal Impedance	
Example	Nominal Value
601	600Ω
102	1000Ω

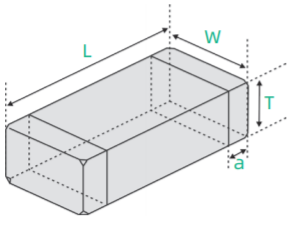
6

Hazardous Substance Free Products
F

7

Design Code	
□□□	Design Code
* Standard Product Is Blank	

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
HZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
HZ1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]

SPECIFICATIONS

HZ1005 TYPE

Part Number	Impedance		Max. DC Resistance	Max. Rated Current	Thickness
	@100MHz	@1GHz Min.			
Units	Ω		Ω	mA	mm [inch]
Symbol	Z		DCR	Ir	T
HZ1005G121TF	120±25%	500	0.70	300	0.5±0.15 [.020±.006]
HZ1005G221TF	220±25%	900	1.00	250	
HZ1005D221TFB01	220±25%	300	0.50	300	
HZ1005D301TF	300±25%	400	1.00	100	
HZ1005D601TF	600±25%	700	1.50	100	
HZ1005D102TF	1000±25%	900	1.80	50	
HZ1005K181TF	180±25%	400	1.00	100	
HZ1005K301TF	300±25%	600	1.10	100	
HZ1005K471TF	470±25%	900	1.30	100	
HZ1005K601TFB01	600±25%	1100	0.85	300	
HZ1005K102TFB01	1000±25%	1200	1.25	250	
HZ1005K152TF	1500±25%	1400	2.20	50	
HZ1005K182TFB03	1800±25%	1620	2.20	200	
HZ1005U601TFB02	600±25%	600	0.70	300	
HZ1005U102TFB01	1000±25%	900	1.10	250	

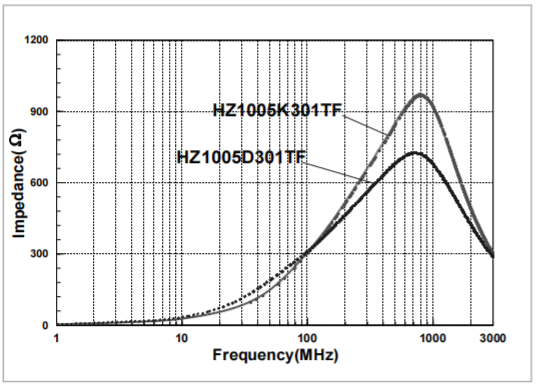
HZ1608 TYPE

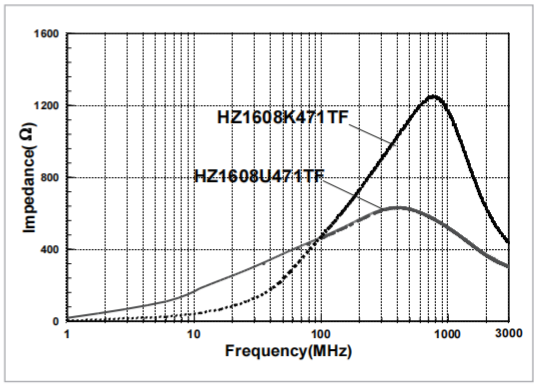
Part Number	Impedance		Max. DC Resistance	Max. Rated Current	Thickness
	@100MHz	@1GHz Min.			
Units	Ω		Ω	mA	mm [inch]
Symbol	Z		DCR	Ir	T
HZ1608K471TF	470±25%	700	1.20	100	0.8±0.15 [.031±.006]
HZ1608K601TF	600±25%	850	1.50	100	
HZ1608K102TF	1000±25%	1100	1.80	50	
HZ1608U181TF	180±25%	180	0.55	200	
HZ1608U301TF	300±25%	300	0.75	200	
HZ1608U471TF	470±25%	400	0.85	200	
HZ1608U601TF	600±25%	450	1.00	200	
HZ1608U102TF	1000±25%	750	1.60	100	

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

TYPICAL ELECTRICAL CHARACTERISTICS

D, K, U Material Comparison





DETAIL ELECTRICAL CHARACTERISTICS

HZ1005 TYPE

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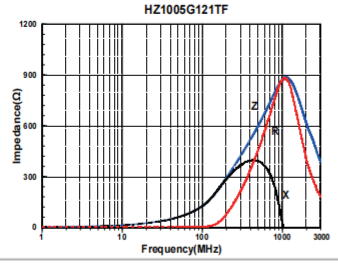

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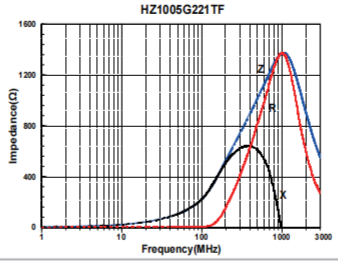

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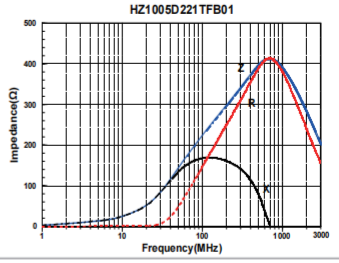

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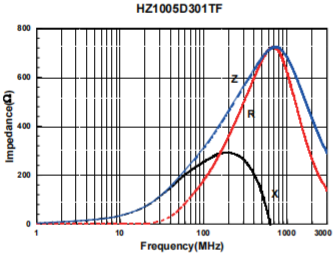
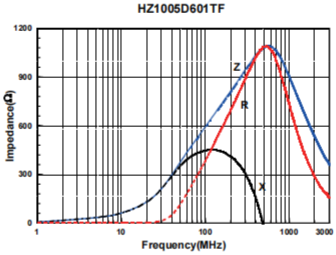


HZ1005D601TF



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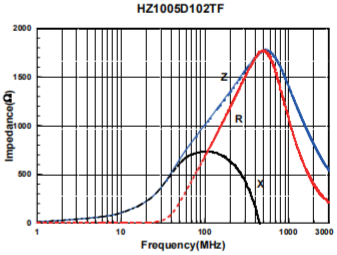

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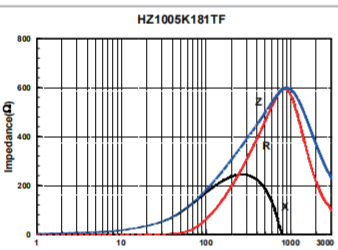

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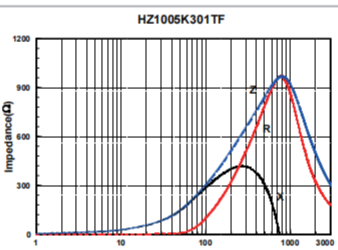

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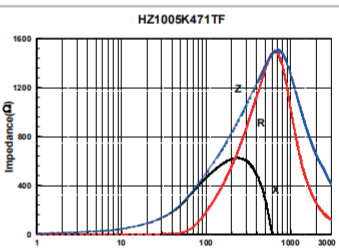

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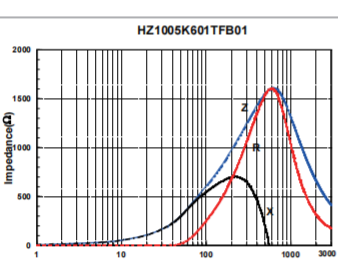

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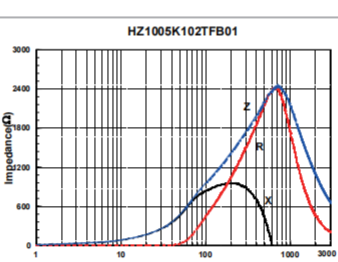

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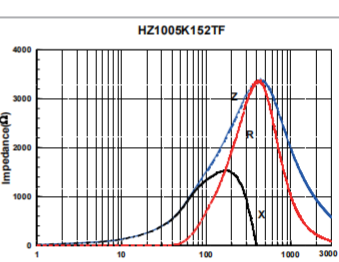

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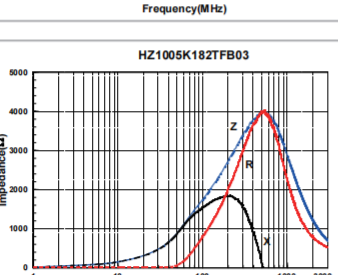

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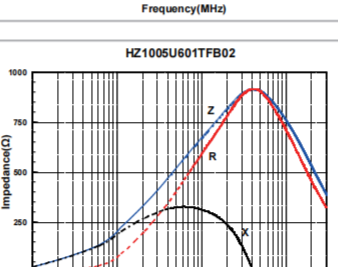

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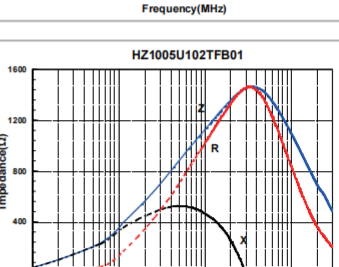
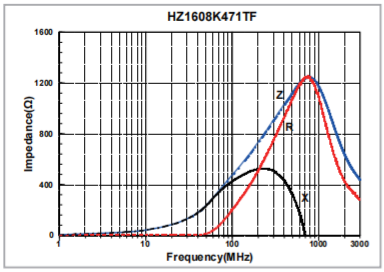
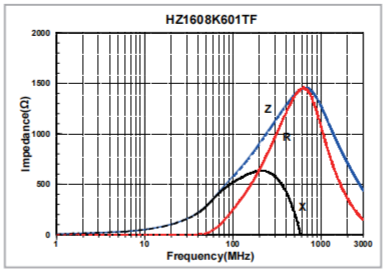
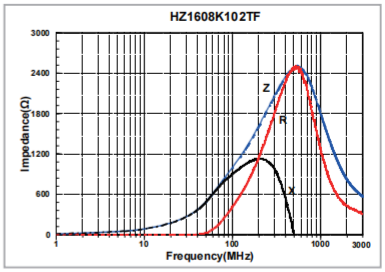


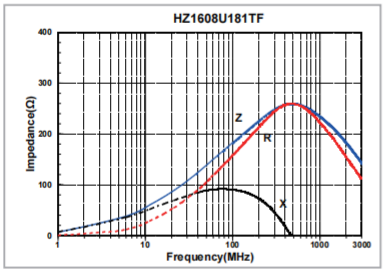
DETAIL ELECTRICAL CHARACTERISTICS

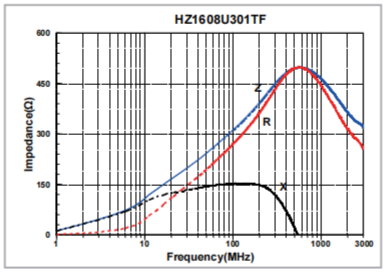
HZ1608 TYPE

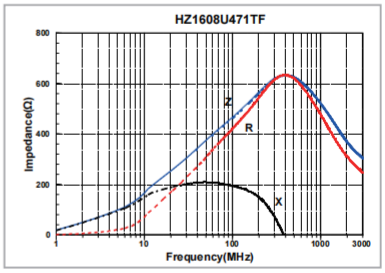


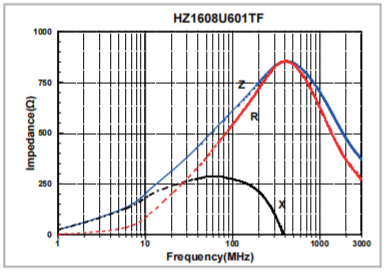


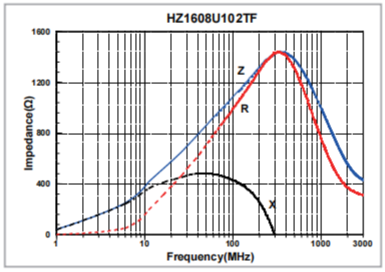












Multilayer Chip Ferrite Bead – HPZ Series

Operating temp. : -55°C ~ +125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk.
- Perfect effect for EMI suppression at high frequency (≥1GHz).
- Low DC resistance suitable for large current signals.
- Four types material and wide range of impedance values for various applications.

APPLICATIONS

- High frequency noise suppression in electric equipments such as computers and peripheral devices, residential gateway, LCD TVs, communication equipments, OA equipments, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7	8
HPZ	1608	D	471	-R70	T	F	□□□

1 Type

HPZ	Chip Ferrite Bead For High Frequency and Large Current

2 External Dimensions (L×W) (mm)

1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8

3 Material Code

G, D, E, U

4 Nominal Impedance

Example	Nominal Value
471	470Ω
102	1000Ω

5 Rated Current

R70	0.7A
1R0	1.0A

6 Packing

T	Tape & Reel

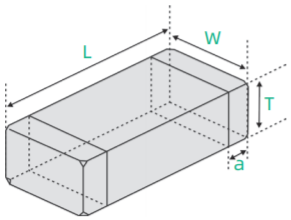
7 Hazardous Substance Free Products

F

8 Design Code

□□□	Design Code
* Standard Product Is Blank	

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
HPZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
HPZ1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]

SPECIFICATIONS

HPZ1005 TYPE

Part Number	Impedance		Max. DC Resistance	Max. Rated Current	Thickness
	@100MHz	@1GHz Min.			
Units	Ω		Ω	mA	mm [inch]
Symbol	Z		DCR	Ir	T
HPZ1005D121-R60TF	120±25%	100	0.25	600	0.5±0.15 [.020±.006]
HPZ1005D221-R50TF	220±25%	300	0.38	500	
HPZ1005U121-R60TF	120±25%	100	0.25	600	
HPZ1005U121-1R1TF	120±25%	100	0.13	1100	
HPZ1005U221-R50TF	220±25%	200	0.38	500	
HPZ1005U221-R70TF	220±25%	250	0.25	700	

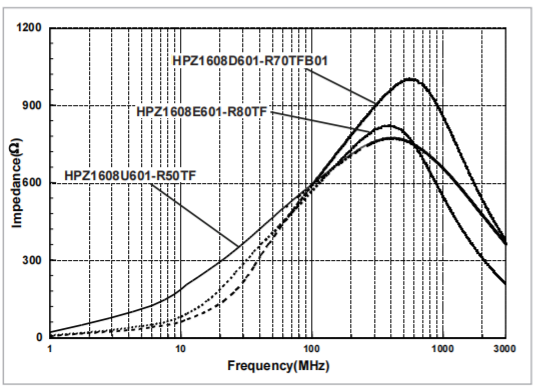
HPZ1608 TYPE

Part Number	Impedance		Max. DC Resistance	Max. Rated Current	Thickness
	@100MHz	@1GHz Min.			
Units	Ω		Ω	mA	mm [inch]
Symbol	Z		DCR	Ir	T
HPZ1608G121-R90TFB01	120±25%	500	0.13	900	0.8±0.15 [.031±.006]
HPZ1608D121-1R5TF	120±25%	200	0.07	1500	
HPZ1608D151-R80TF	150±25%	200	0.20	800	
HPZ1608D151-1R5TF	150±25%	200	0.07	1500	
HPZ1608D221-R60TF	220±25%	300	0.25	600	
HPZ1608D221-1R2TF	220±25%	300	0.12	1200	
HPZ1608D331-R90TFB01	330±25%	380	0.15	900	
HPZ1608D391-R70TF	390±25%	600	0.18	700	
HPZ1608D471-R70TFB02	470±25%	550	0.22	700	
HPZ1608D601-R70TFB01	600±25%	750	0.24	700	
HPZ1608D102-R60TF	1000±25%	1000	0.35	600	
HPZ1608E601-R80TF	600±25%	500	0.25	800	
HPZ1608E102-R60TF	1000±25%	600	0.35	600	
HPZ1608E152-R50TF	1500±25%	1000	0.50	500	
HPZ1608U101-R80TF	100±25%	100	0.20	800	
HPZ1608U101-2R0TF	100±25%	100	0.055	2000	
HPZ1608U121-2R0TF	120±25%	110	0.055	2000	
HPZ1608U221-R60TF	220±25%	220	0.25	600	
HPZ1608U471-R50TF	470±25%	400	0.32	500	
HPZ1608U601-R50TF	600±25%	450	0.35	500	
HPZ1608U102-R15TF	1000±25%	750	0.90	150	

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

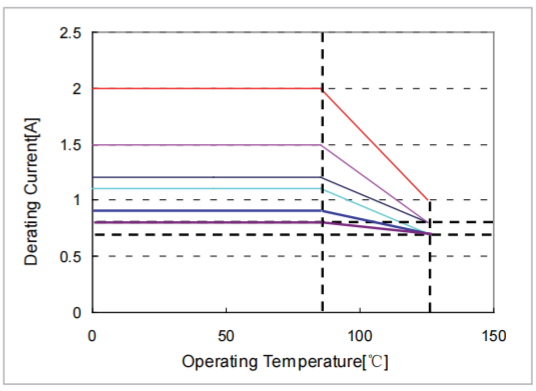
TYPICAL ELECTRICAL CHARACTERISTICS

D, E, U Material Comparison



Rated Current

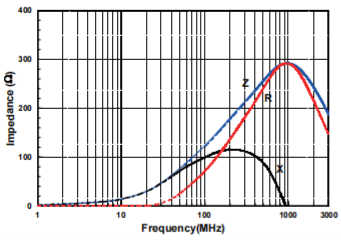
When operating temperatures exceed +85 ℃ , derating of current is necessary for chip ferrite beads for which rated current is 800mA and over. Please apply the derating curve shown in chart according to the operating temperature.



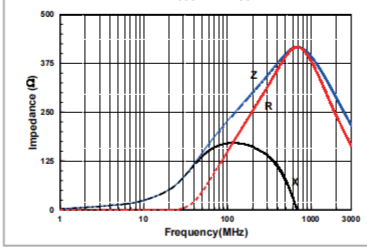
DETAIL ELECTRICAL CHARACTERISTICS

HPZ1005 TYPE

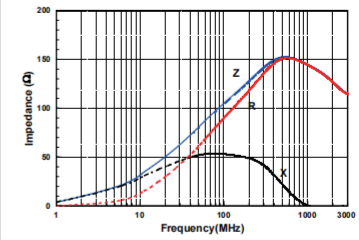
HPZ1005D121-R60TF



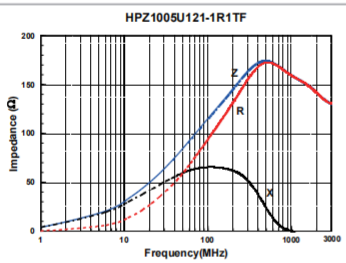
HPZ1005D221-R50TF



HPZ1005U121-R60TF



HPZ1005U121-1R1TF



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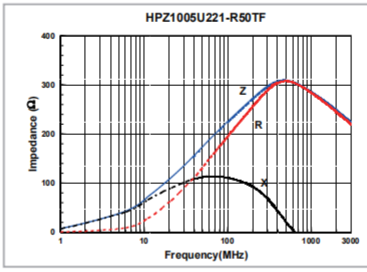
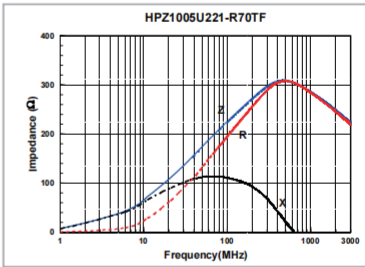
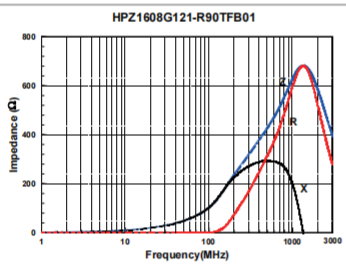


HPZ1005U221-R70TF



HPZ1608 TYPE

HPZ1608G121-R90TFB01



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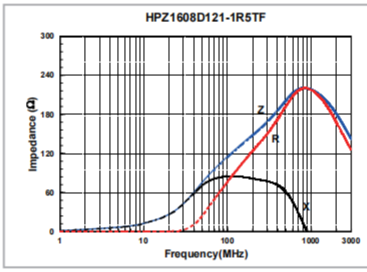
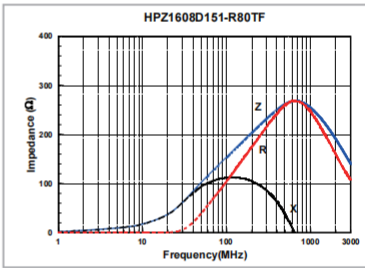


HPZ1608D151-R80TF



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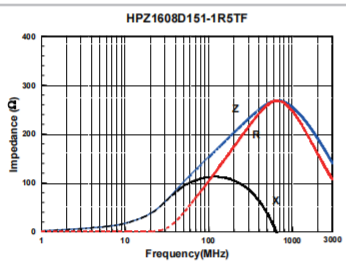
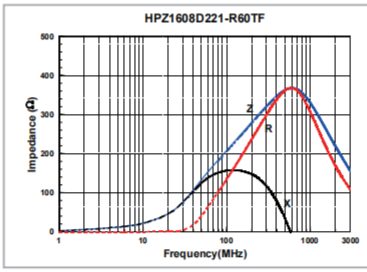


HPZ1608D221-R60TF



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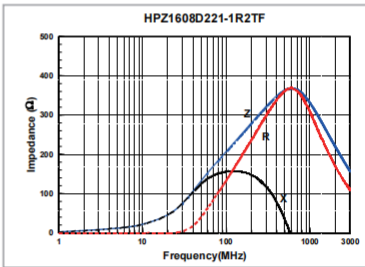
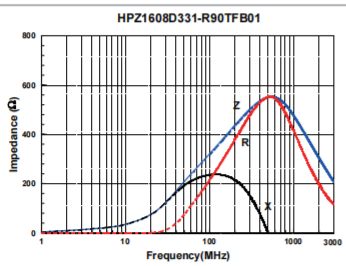
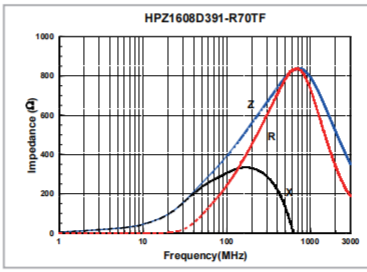


HPZ1608D331-R90TFB01



HPZ1608D391-R70TF



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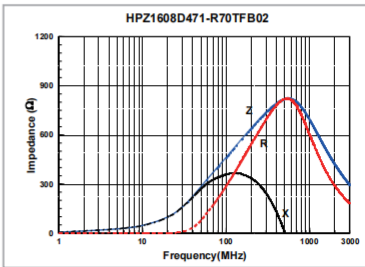
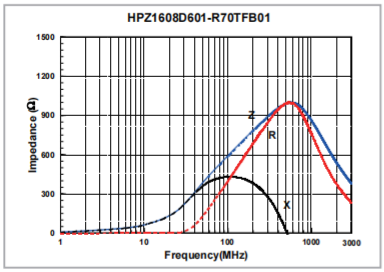
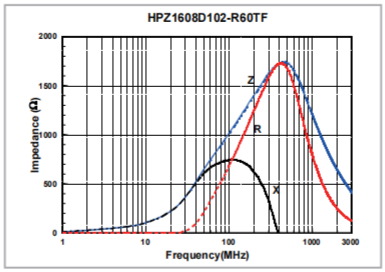
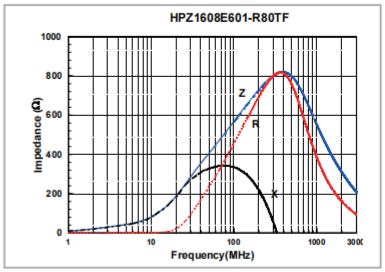


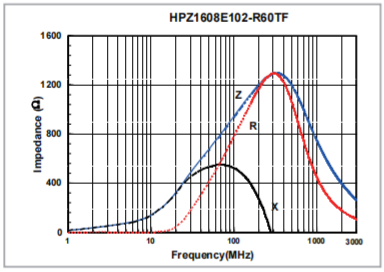
DETAIL ELECTRICAL CHARACTERISTICS

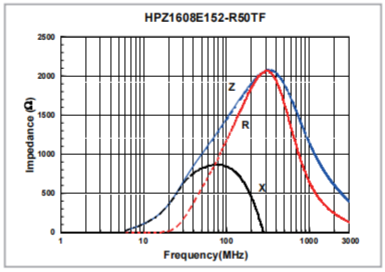
HPZ1608 TYPE

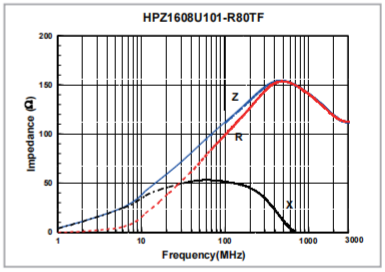


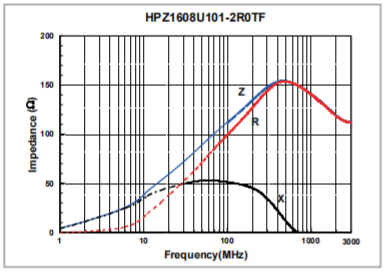


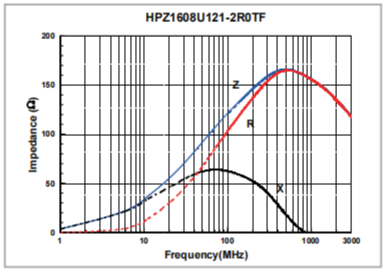


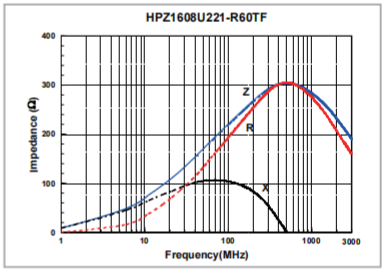


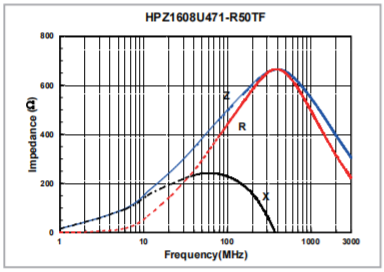


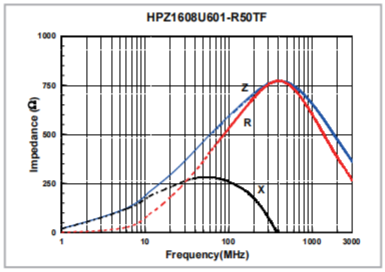


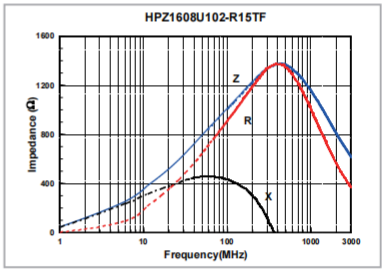












Multilayer Chip Ferrite Bead – HFZ Series

Operating temp. : -55°C ~ +125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk.
- Perfect effect for EMI suppression at high frequency (≥1GHz) due to its high impedance.
- Four types material and wide range of impedance values for various applications.

APPLICATIONS

- High frequency noise suppression in electric equipments such as computer and peripheral devices, residential gateway, LCD TVs, communication equipments, OA equipments, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6
HFZ	1005	K	301	T	F

1

Type	
HFZ	Chip Ferrite Beadfor High Frequency

2

External Dimensions (L×W) (mm)	
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8

3

Material Code
G, K, D, U

4

Nominal Impedance	
Example	Nominal Value
301	300Ω
102	1000Ω

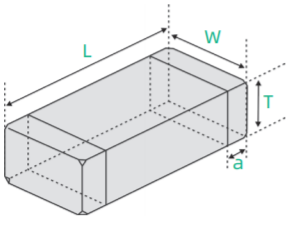
5

Packing	
T	Tape & Reel

6

Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
HFZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
HFZ1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]

SPECIFICATIONS

HFZ1005 TYPE

Part Number	Impedance		Max. DC Resistance	Max. Rated Current	Thickness
	@100MHz	@1GHz Min.			
Units	Ω		Ω	mA	mm [inch]
Symbol	Z		DCR	Ir	T
HFZ1005G121TF	120±25%	500	0.70	300	0.5±0.15 [.020±.006]
HFZ1005G221TF	220±25%	900	1.00	250	
HFZ1005K181TF	180±25%	400	1.00	100	
HFZ1005K301TF	300±25%	600	1.10	100	
HFZ1005K471TF	470±25%	900	1.30	100	
HFZ1005K601TF	600±25%	1100	1.60	100	
HFZ1005K102TF	1000±25%	1200	1.80	50	
HFZ1005K152TF	1500±25%	1400	2.20	50	
HFZ1005K182TF	1800±25%	1600	2.40	50	
HFZ1005U601TF	600±25%	600	1.20	100	
HFZ1005U102TF	1000±25%	900	1.80	50	

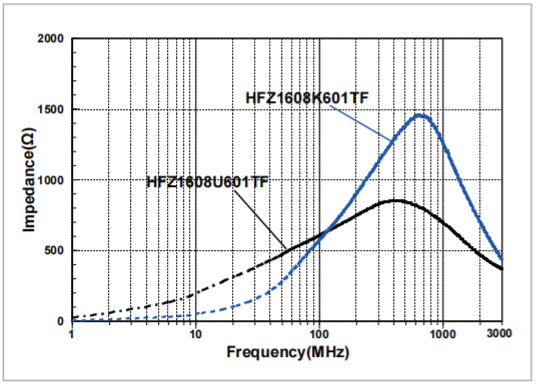
HFZ1608 TYPE

Part Number	Impedance		Max. DC Resistance	Max. Rated Current	Thickness
	@100MHz	@1GHz Min.			
Units	Ω		Ω	mA	mm [inch]
Symbol	Z		DCR	Ir	T
HFZ1608D471TF	470±25%	700	1.20	100	0.8±0.15 [.031±.006]
HFZ1608K471TF	470±25%	700	1.20	100	
HFZ1608K601TF	600±25%	850	1.50	100	
HFZ1608K102TF	1000±25%	1100	1.80	50	
HFZ1608U181TF	180±25%	180	0.55	200	
HFZ1608U471TF	470±25%	400	0.85	200	
HFZ1608U601TF	600±25%	450	1.00	200	
HFZ1608U102TF	1000±25%	750	1.60	100	

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

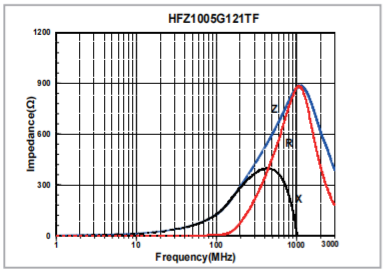
TYPICAL ELECTRICAL CHARACTERISTICS

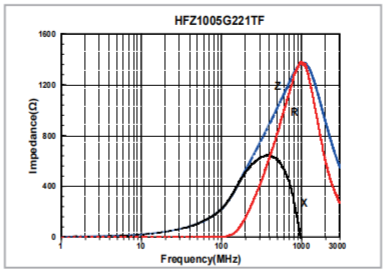
K, U Material Comparison

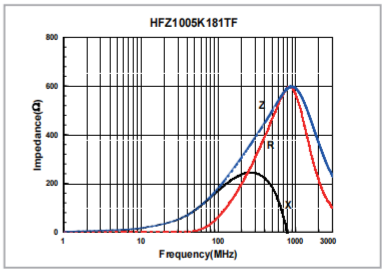


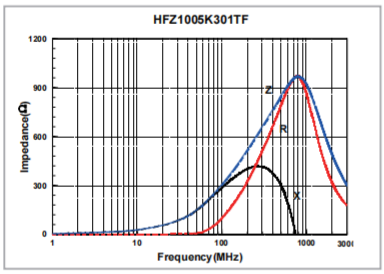
DETAIL ELECTRICAL CHARACTERISTICS

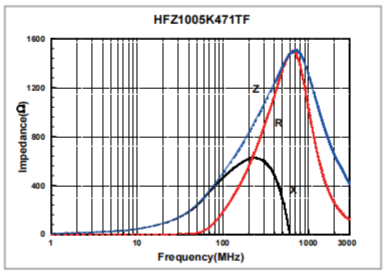
HFZ1005 TYPE

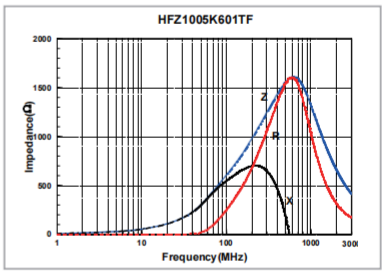


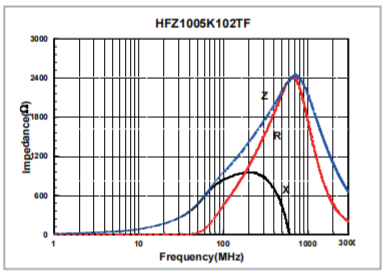


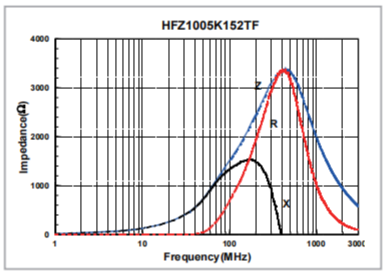


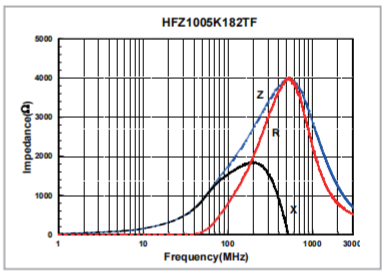


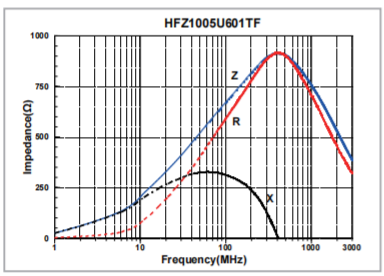


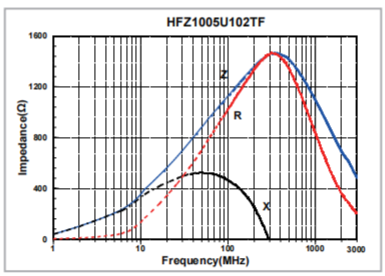




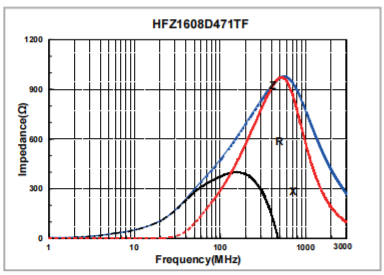


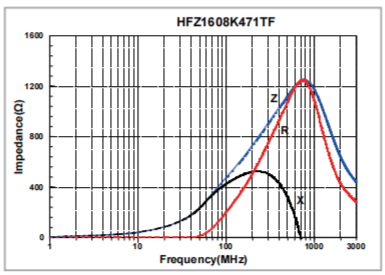


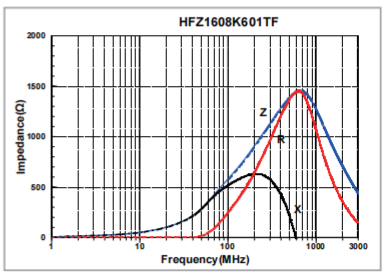




HFZ1608 TYPE

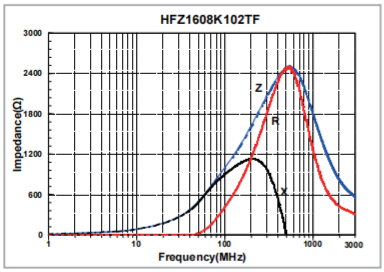


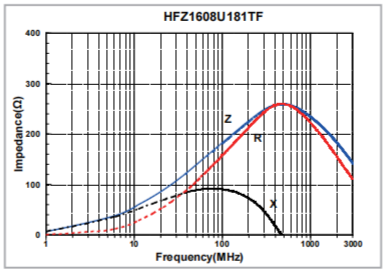


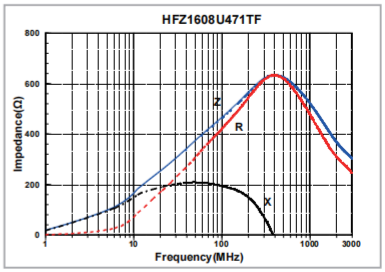


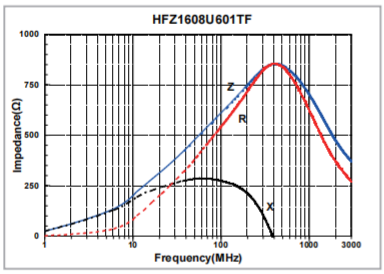
DETAIL ELECTRICAL CHARACTERISTICS

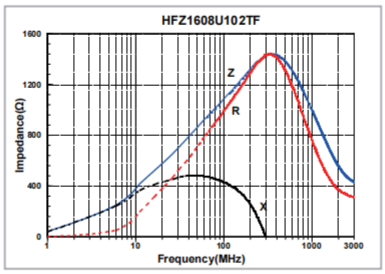
HFZ1608 TYPE











Multilayer Chip Ferrite Bead – HFPZ Series

Operating temp. : -55°C ~ +125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk.
- Perfect effect for EMI suppression at high frequency (≥1GHz).
- Low DC resistance suitable for large current signals.
- Four types material and wide range of impedance values for various applications.

APPLICATIONS

- High frequency noise suppression in electric equipments such as computers and peripheral devices, residential gateway, LCD TVs, communication equipments, OA equipments, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7	8
HFPZ	1608	D	331	-R90	T	F	□□□

1

Type	
HFPZ	Chip Ferrite Bead For High Frequency and Large Current

2

External Dimensions (L×W) (mm)	
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8

3

Material Code
G, D, E, U

4

Nominal Impedance	
Example	Nominal Value
331	330Ω
102	1000Ω

5

Rated Current	
R90	0.9A
1R2	1.2A

6

Packing	
T	Tape & Reel

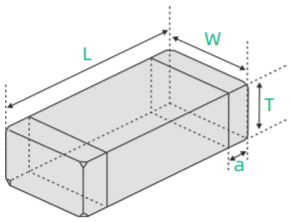
7

Hazardous Substance Free Products
F

8

Design Code	
□□□	Design Code
* Standard Product Is Blank	

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
HFPZ1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
HFPZ1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]

SPECIFICATIONS

HFPZ1005 TYPE

Part Number	Impedance		Max. DC Resistance	Max. Rated Current	Thickness
	@100MHz	@1GHz Min.			
Units	Ω		Ω	mA	mm [inch]
Symbol	Z		DCR	Ir	T
HFPZ1005D121-R60TF	120±25%	100	0.25	600	0.5±0.15 [.020±.006]
HFPZ1005D221-R50TF	220±25%	300	0.38	500	
HFPZ1005U121-1R1TF	120±25%	100	0.13	1100	
HFPZ1005U221-R70TF	220±25%	250	0.25	700	

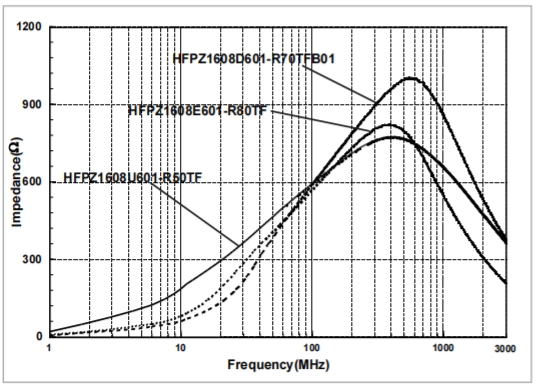
HFPZ1608 TYPE

Part Number	Impedance		Max. DC Resistance	Max. Rated Current	Thickness
	@100MHz	@1GHz Min.			
Units	Ω		Ω	mA	mm [inch]
Symbol	Z		DCR	Ir	T
HFPZ1608G121-R90TFB01	120±25%	500	0.13	900	0.8±0.15 [.031±.006]
HFPZ1608D121-1R5TF	120±25%	200	0.07	1500	
HFPZ1608D151-1R5TF	150±25%	200	0.07	1500	
HFPZ1608D221-1R2TF	220±25%	300	0.12	1200	
HFPZ1608D331-R90TFB01	330±25%	380	0.15	900	
HFPZ1608D391-R70TF	390±25%	600	0.18	700	
HFPZ1608D471-R70TFB02	470±25%	550	0.22	700	
HFPZ1608D601-R70TFB01	600±25%	1000	0.24	700	
HFPZ1608D102-R60TF	1000±25%	1000	0.35	600	
HFPZ1608E601-R80TF	600±25%	500	0.25	800	
HFPZ1608E102-R60TF	1000±25%	600	0.35	600	
HFPZ1608E152-R50TF	1500±25%	1000	0.50	500	
HFPZ1608U101-2R0TF	100±25%	100	0.055	2000	
HFPZ1608U121-2R0TF	120±25%	110	0.055	2000	
HFPZ1608U221-R60TF	220±25%	220	0.25	600	
HFPZ1608U471-R50TF	470±25%	400	0.32	500	
HFPZ1608U601-R50TF	600±25%	450	0.35	500	
HFPZ1608U102-R15TF	1000±25%	750	0.90	150	

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

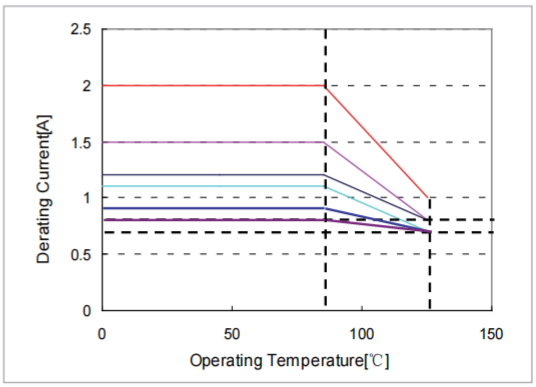
TYPICAL ELECTRICAL CHARACTERISTICS

D, E, U Material Comparison



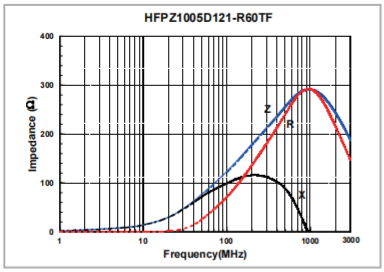
Rated Current

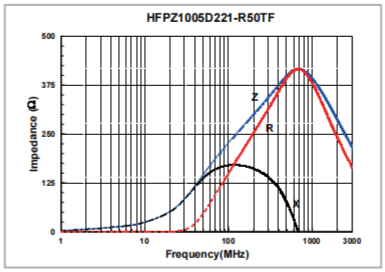
When operating temperatures exceed +85℃ , derating of current is necessary for chip ferrite beads for which rated current is 800mA and over. Please apply the derating curve shown in chart according to the operating temperature.

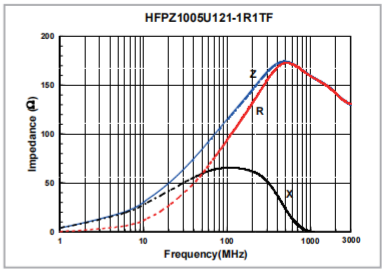


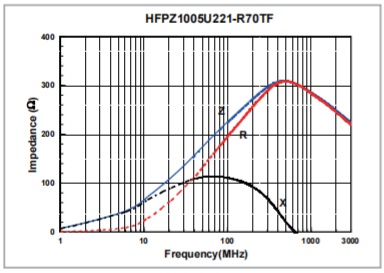
DETAIL ELECTRICAL CHARACTERISTICS

HFPZ1005 TYPE

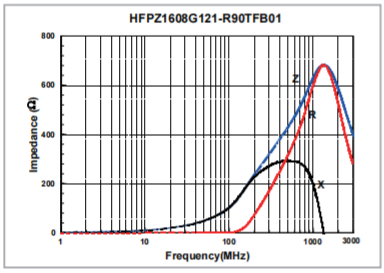


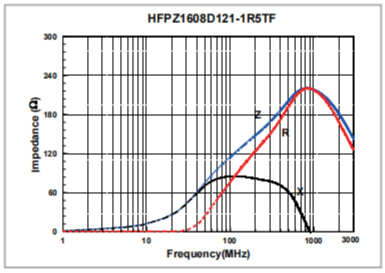


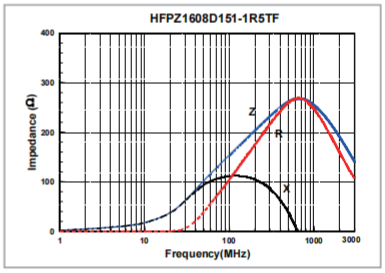


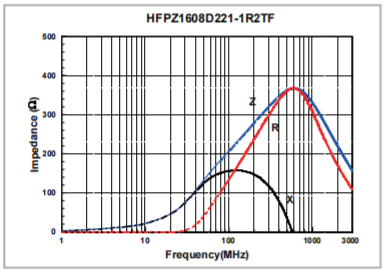


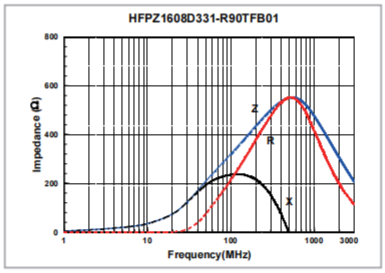
HFPZ1608 TYPE

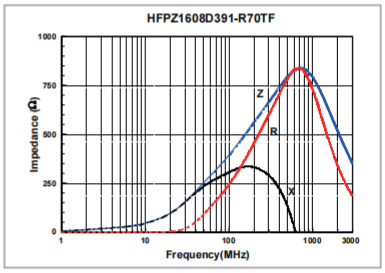


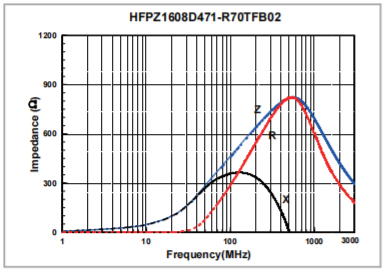


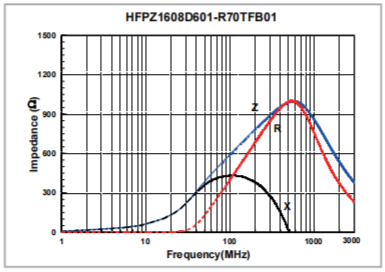


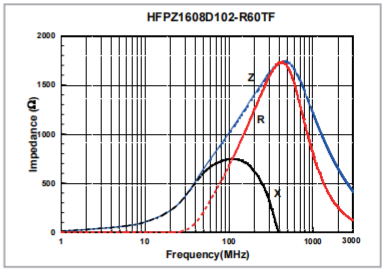






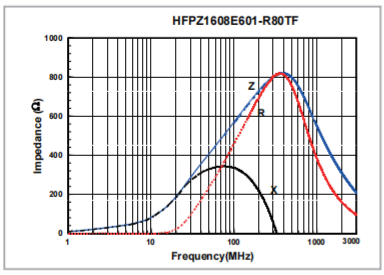


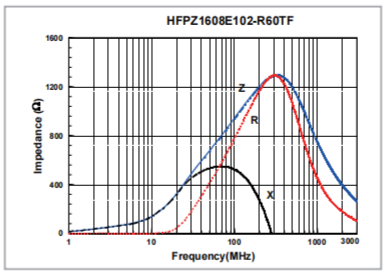


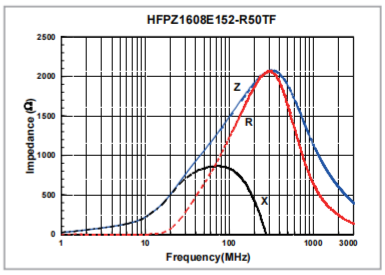


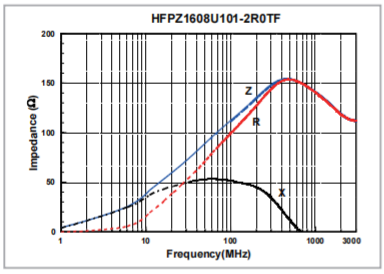
DETAIL ELECTRICAL CHARACTERISTICS

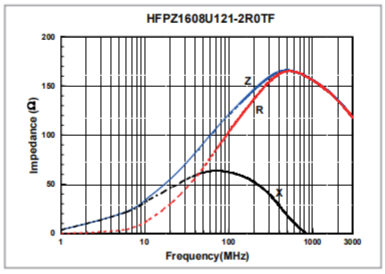
HFPZ1608 TYPE

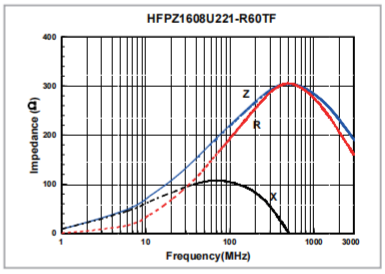


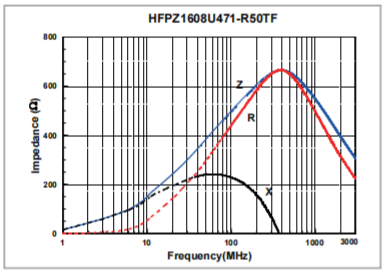


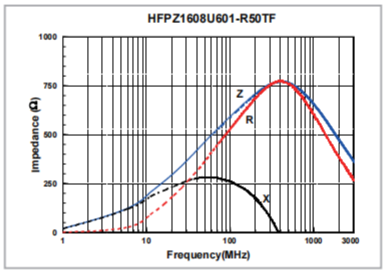


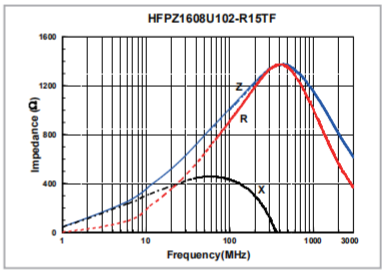












Multilayer Chip Audio Bead – MZA Series

Operating temp. : -40°C ~ +85°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk.
- Perfect effect for EMI suppression at high frequency.
- Low DC resistance suitable for large current signals.
- Excellent performance of THD+N.

APPLICATIONS

- EMI Suppression of audio line, such as Mobile phones, TV and other equipment, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
MZAH	1608	G	471	-1R6	T	F

1

Type	
MZAS	Audio Filter for High Speed Signal
MZAH	Audio Filter for High Frequency Noise

2

External Dimensions (L×W) (mm)	
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8
2016 [0806]	2.0×1.6
3225 [1210]	3.2×2.5

5

Rated Current	
R40	0.4A
1R6	1.6A

6

Packing	
T	Tape & Reel

3

Material Code
F, G, K, D

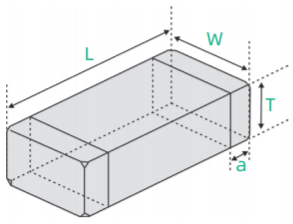
4

Nominal Impedance	
Example	Nominal Value
471	470Ω
152	1500Ω

7

Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
MZAH/MZAS1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
MZAH/MZAS1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]
MZAS2016 [0806]	2.0 (+0.3, -0.1) [.079 (+.012, -.004)]	1.6±0.2 [.063±.008]	0.9±0.1 [.035±.004]	0.5±0.3 [.020±.012]
MZAS3225 [1210]	3.20±0.20 [0.126±0.008)]	2.50±0.20 [0.098±0.008]	2.0±0.2 [0.079±0.008]	0.7±0.3 [0.028±0.012]

SPECIFICATIONS

MZAH1005 Series

Part Number	Impedance			Max. DC Resistance	Max. Rated Current	Thickness
	@900MHz(Typ.)	@900MHz(Min.)	@1.7GHz(Typ.)			
Units	Ω			Ω	mA	mm [inch]
Symbol	Z			DCR	Ir	T
MZAH1005F101-1R1TF	100	70	160	0.100	1100	0.5±0.15 [0.020±0.006]
MZAH1005F251-1R2TF	250	150	320	0.150	1200	
MZAH1005F331-R65TF	330	230	540	0.300	650	
MZAH1005F461-R90TF	460	300	600	0.170	900	
MZAH1005F771-R50TF	770	530	900	0.500	500	
MZAH1005F152-R40TF	1500	1000	1000	0.600	400	
MZAH1005F262-R35TF	2600	1800	1450	0.800	350	
MZAH1005F352-R27TF	3500	2500	1600	1.350	270	
MZAH1005F462-R27TF	4600	2800	1800	1.650	270	

MZAH1608 Series

Part Number	Impedance			Max. DC Resistance	Max. Rated Current	Thickness
	@900MHz(Typ.)	@900MHz(Min.)	@1.7GHz(Typ.)			
Units	Ω			Ω	mA	mm [inch]
Symbol	Z			DCR	Ir	T
MZAH1608G471-1R6TF	470	280	270	0.075	1600	0.8±0.15 [.031±.006]

MZAS1005 Series

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
MZAS1005G700-R90TF	70±25%	100	0.200	900	0.5±0.15 [0.020±0.006]
MZAS1005G121-R80TF	120±25%	100	0.300	800	
MZAS1005G221-R70TF	220±25%	100	0.400	700	
MZAS1005K102-R23TF	1000±25%	100	0.900	230	

MZAS1608 Series

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
MZAS1608G600-1R2TF	60±25%	100	0.130	1200	0.8±0.15 [.031±.006]
MZAS1608G121-1R3TF	120±25%	100	0.140	1300	
MZAS1608G251-1R1TF	250±25%	100	0.190	1100	
MZAS1608K501-R95TF	500±25%	100	0.250	950	
MZAS1608K701-R80TF	700±25%	100	0.290	800	

MZAS2016 Series

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
MZAS2016G401-2R0TF	400±25%	100	0.10	2000	0.9±0.1 [.035±.004]

MZAS3225 Series

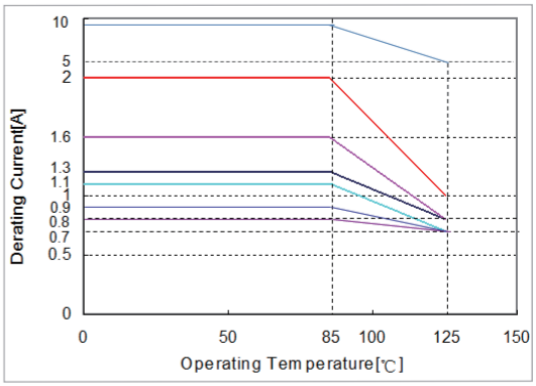
Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
MZAS3225D300TF	20~40	100	0.0016	10000	2.0±0.2 [0.079±0.008]

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

TYPICAL ELECTRICAL CHARACTERISTICS

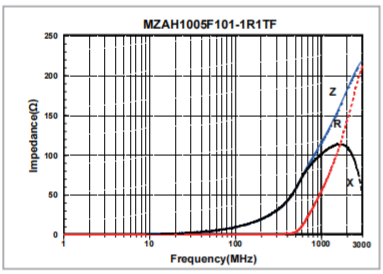
Rated Current

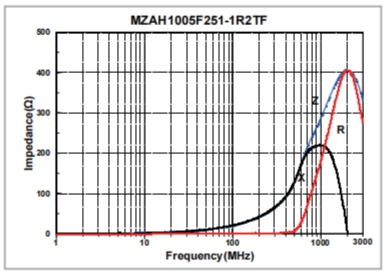
When operating temperatures exceed +85℃ , derating of current is necessary for chip ferrite beads for which rated current is 800mA and over. Please apply the derating curve shown in chart according to the operating temperature.

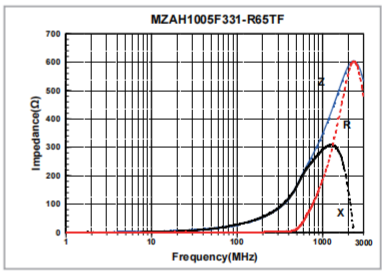


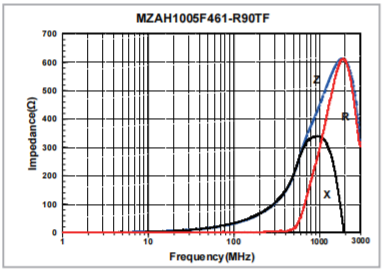
DETAIL ELECTRICAL CHARACTERISTICS

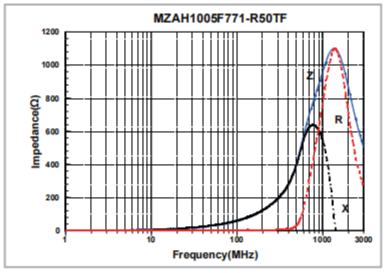
MZAH1005 Series

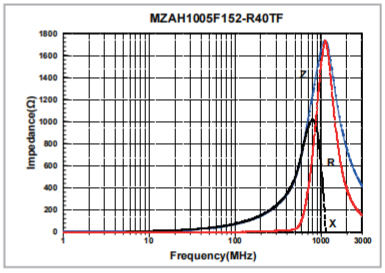


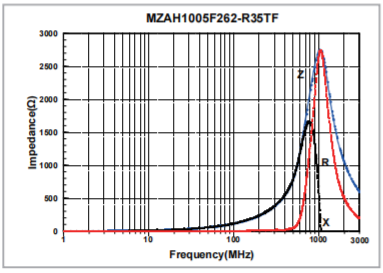


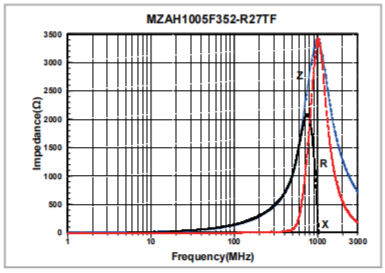


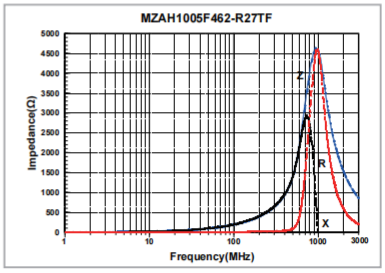




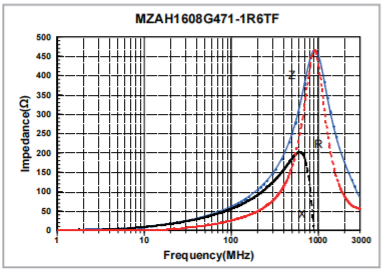






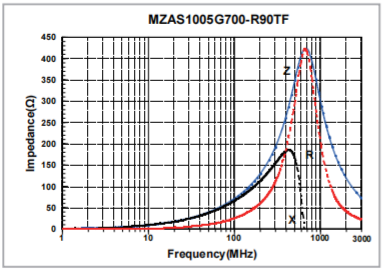


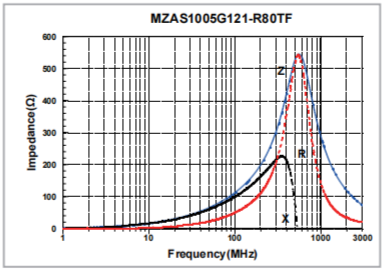
MZAH1608 Series

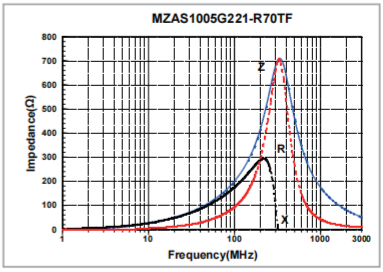


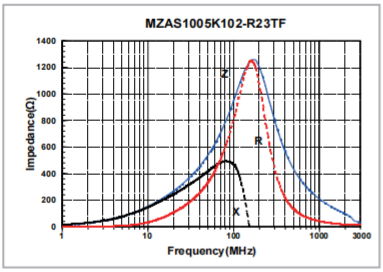
DETAIL ELECTRICAL CHARACTERISTICS

MZAS1005 Series

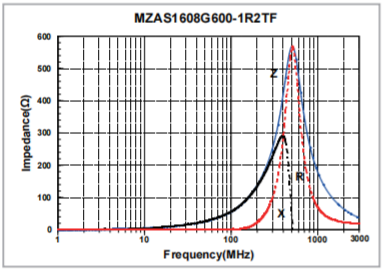


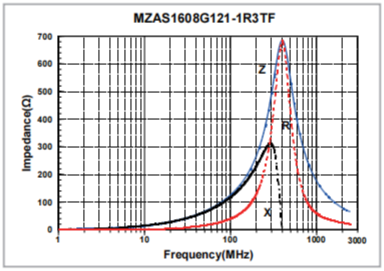


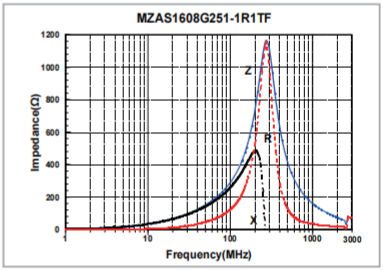


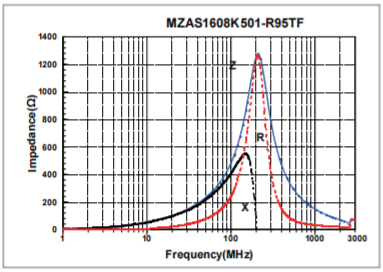


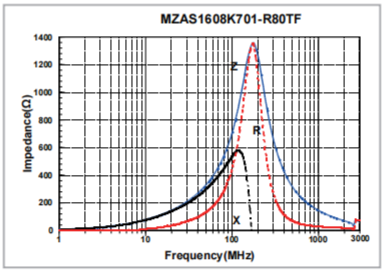
MZAS1608 Series



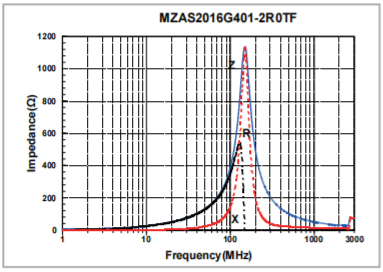




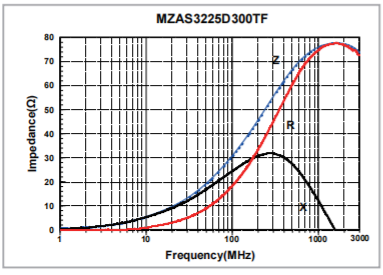




MZAS2016 Series



MZAS3225 Series



Multilayer Chip Large Current Bead – MZPA Series

Operating temp. : -40°C ~+125°C

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk.
- Perfect effect for EMI suppression at high Frequency.
- Low DC resistance suitable for large current signals.
- Excellent performance of THD+N.

APPLICATIONS

- Audio line of Class D power amplifier, TV, speakers and other audio equipments.
- Large current line of GaN fast charging adapter,server power supply and other large power euqipments.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
MZPA	2016	K	101	-4R0	T	F

1

Type	
MZPA	Chip High Current Power Bead

2

External Dimensions (L×W) (mm)	
2016 [0806]	2.0×1.6
2520 [1008]	2.5×2.0
3216 [1206]	3.2×1.6
3225 [1210]	3.2×2.5

3

Material Code
K, D

4

Nominal Impedance	
Example	Nominal Value
101	100Ω
181	180Ω

5

Rated Current	
4R0	4 A
3R4	3.4A
3R1	3.1A

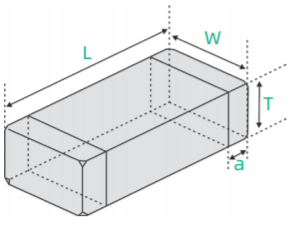
6

Packing	
T	Tape & Reel

7

Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
MZPA2016 [0806]	2.0±0.2 [.079 ±.008]	1.6±0.2 [.063±.008]	0.9±0.1 [.035±.004]	0.5±0.3 [.020±.012]
MZPA2520 [1008]	2.5(+0.3, -0.1) [.098(+.012, -.004)]	2.0±0.2 [.079 ±.008]	1.1±0.1 [.43±.004]	0.5±0.3 [.020±.012]
MZPA3216 [1206]	3.2±0.2 [0.126±0.008]	1.6±0.2 [.063±0.008]	1.10±0.2 [.043±0.008]	0.7±0.3 [.028±0.012]
MZPA3225 [1210]	3.2(+0.3, -0.1) [0.126(+.012, -.004)]	2.5±0.2 [.098±0.008]	1.1±0.2 [.043±0.008]	0.7±0.3 [.028±0.012]

SPECIFICATIONS

MZPA2016 Series

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
MZPA2016K101-4R0TF	100±25%	100	0.018	4000	0.9±0.1 [.035±.004]]
MZPA2016K181-3R4TF	180±25%	100	0.025	3400	
MZPA2016K301-3R1TF	300±25%	100	0.030	3100	
MZPA2016K601-2R5TF	600±25%	100	0.046	2500	

MZPA2520 Series

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
MZPA2520D301-4R0TF	300±25%	100	0.03	4000	1.1±0.1 [.043±.004]
MZPA2520D601-4R0TF	600±25%	100	0.03	4000	

MZPA3216 Series

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
MZPA3216D500-10R0TF	50±25%	100	0.0016	10000	1.1±0.2 [0.043±0.008]

MZPA3225 Series

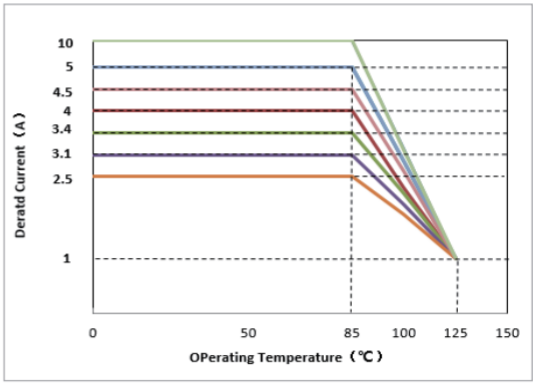
Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	Ir	T
MZPA3225D301-5R0TF	300±25%	100	0.025	5000	1.1±0.2 [0.043±0.008]
MZPA3225D471-4R5TF	470±25%	100	0.030	4500	
MZPA3225D681-4R0TF	680±25%	100	0.035	4000	

Ir (mA) Max.*:When applied rated current to the products, self temperature rise shall be limited to 40°C max.

TYPICAL ELECTRICAL CHARACTERISTICS

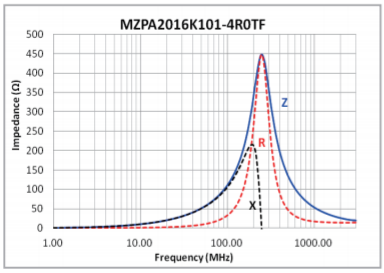
Rated Current

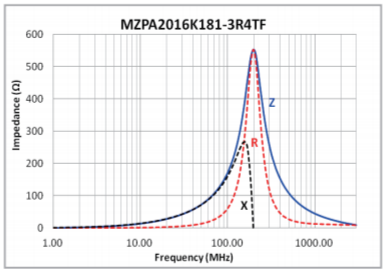
When operating temperatures exceed +85°C , derating of current is necessary for chip ferrite beads for which rated current is 1000mA and over. Please apply the derating curve shown in chart according to the operating temperature.

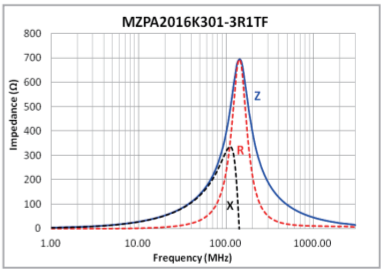


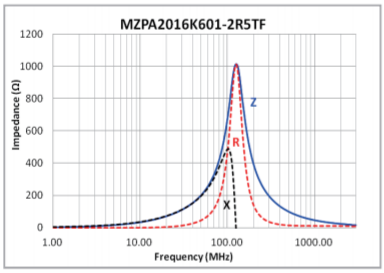
DETAIL ELECTRICAL CHARACTERISTICS

MZPA2016 Series

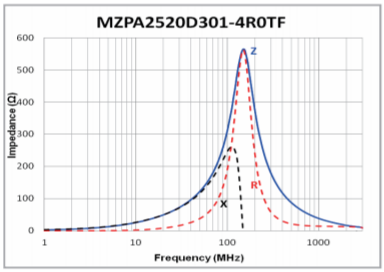


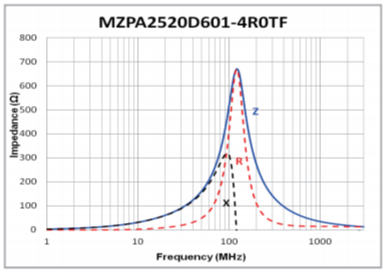




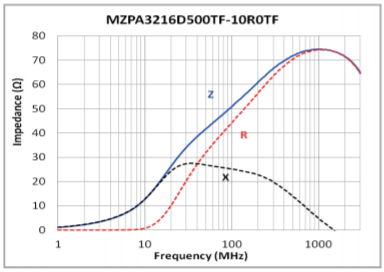


MZPA2520 Series

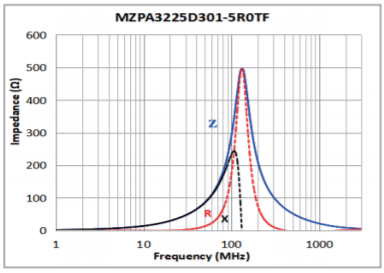


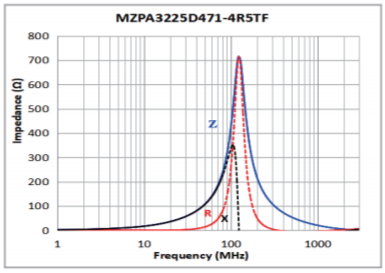


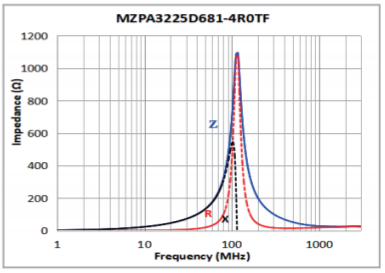
MZPA3216 Series



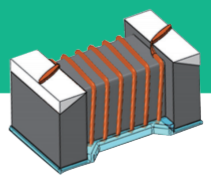
MZPA3225 Series







Wire Wound Ferrite Bead–WHZ Series



Operating temp. : -40°C ~+85°C

FEATURES

- Small chip suitable for surface mounting
- Large inductance with ferrite material
- Compared with stacked magnetic bead DCR, the loss is smaller

APPLICATIONS

- Mobile phones and other electronic devices
- Smart wear

PRODUCT IDENTIFICATION

1	2	3	4	5	6
WHZ	1608	F	R82	□	T

1

Type	
WHZ	Wire Wound Ferrite Beads

2

External Dimensions (L×W) (mm)	
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8

3

Material Code	
F	Ferrite

4

Nominal Inductance	
Example	Nominal Value
R82	820nH
100	10000nH

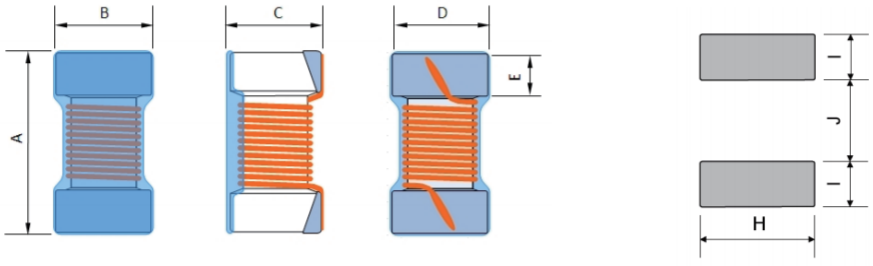
5

Inductance Tolerance	
J	±5%
K	±10%

6

Packing	
B	Bulk Package
T	Tape & Reel

SHAPE AND DIMENSIONS



Unit: mm

Series	A	B	C	D	E Ref.	H Ref.	I Ref.	J Ref.
WHZ1005	1.10±0.10	0.60±0.10	0.55±0.10	0.50±0.10	0.20±0.10	0.65	0.35	0.50
WHZ1608	1.60±0.20	0.80±0.20	0.80±0.20	0.80 Typ.	0.30	1.02	0.64	0.64

SPECIFICATIONS

WHZ1005 TYPE

Part Number	Inductance	Tolerance	Typ.Impedance		L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
			100MHz	900MHz				
Units	nH	-	Ω	Ω	MHz	MHz	Ω	mA
Symbol	L	-	Z	Z	Freq.	S.R.F	DCR	Ir
WHZ1005F20N ☐ T	20	J,K	11.23	82.23	7.9	2600	0.05	1600
WHZ1005F22N ☐ T	22	J,K	12.49	94.9	7.9	2500	0.065	1300
WHZ1005F33N ☐ T	33	J,K	18.91	140.7	7.9	2300	0.06	1400
WHZ1005F36N ☐ T	36	J,K	20.17	155.8	7.9	2300	0.075	1300
WHZ1005F39N ☐ T	39	J,K	22.58	171.3	7.9	2200	0.115	830
WHZ1005F51N ☐ T	51	J,K	28.76	216.5	7.9	1930	0.07	1100
WHZ1005F56N ☐ T	56	J,K	31.20	237.4	7.9	1900	0.095	1000
WHZ1005F72N ☐ T	72	J,K	40.27	308.6	7.9	1650	0.1	1000
WHZ1005F78N ☐ T	78	J,K	44.19	341.6	7.9	1600	0.13	970
WHZ1005FR10 ☐ T	100	J,K	62.13	508.2	7.9	1400	0.16	900
WHZ1005FR14 ☐ T	140	J,K	78.73	624.1	7.9	1220	0.26	630
WHZ1005FR18 ☐ T	180	J,K	99.92	824.7	7.9	1150	0.28	560
WHZ1005FR20 ☐ T	200	J,K	116.4	1094	7.9	1000	0.44	400
WHZ1005FR22 ☐ T	220	J,K	126.1	1042	7.9	1150	0.53	380
WHZ1005FR25 ☐ T	250	K	140.2	1212	7.9	900	0.45	520
WHZ1005FR27 ☐ T	270	J,K	156.2	1312	7.9	860	0.55	360
WHZ1005FR30 ☐ T	300	J,K	173.8	1534	7.9	860	0.41	420
WHZ1005FR33 ☐ T	330	J,K	190.1	1829	7.9	820	0.56	350
WHZ1005FR36 ☐ T	360	J,K	207	1899	7.9	810	0.575	360
WHZ1005FR39 ☐ T	390	J,K	222.4	2327	7.9	760	0.75	300
WHZ1005FR42 ☐ T	420	J,K	245.4	2250	7.9	700	0.7	340
WHZ1005FR47 ☐ T	470	K	281.5	2659	7.9	650	0.73	310
WHZ1005FR56 ☐ T	560	J,K	331.3	3593	7.9	600	0.92	200

WHZ1608 TYPE

Part Number	Inductance	Tolerance	Typ.Impedance		L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
			100MHz	900MHz				
Units	nH	-	Ω	Ω	MHz	MHz	Ω	mA
Symbol	L	-	Z	Z	Freq.	S.R.F	DCR	Ir
WHZ1608F47N ☐ T	47	J,K	28.21	212.9	7.9	1500	0.075	1400
WHZ1608F51N ☐ T	51	J,K	30.80	200	7.9	1400	0.075	1000
WHZ1608F72N ☐ T	72	J,K	43.31	330	7.9	1400	0.12	1400
WHZ1608FR10 ☐ T	100	K	62.75	475.7	7.9	1150	0.13	1400
WHZ1608FR12 ☐ T	120	J,K	73.71	635.8	7.9	1100	0.15	1400
WHZ1608FR15 ☐ T	150	K	90.4	719.7	7.9	1050	0.15	1300
WHZ1608FR18 ☐ T	180	J,K	112.6	910.2	7.9	950	0.15	1300
WHZ1608FR24 ☐ T	240	J,K	148.5	1716	7.9	800	0.16	950
WHZ1608FR27 ☐ T	270	J,K	169.7	2235	7.9	775	0.3	710
WHZ1608FR33 ☐ T	330	J,K	205.8	2038	7.9	725	0.46	560
WHZ1608FR39 ☐ T	390	J,K	244.0	2813	7.9	620	0.51	500
WHZ1608FR47 ☐ T	470	J,K	289.4	3447	7.9	540	0.62	420
WHZ1608FR56 ☐ T	560	J,K	343.2	3529	7.9	525	0.44	550
WHZ1608FR68 ☐ T	680	J,K	454.8	458.2	7.9	260	0.52	470
WHZ1608FR78 ☐ T	780	J,K	494.9	3635	7.9	460	0.83	390
WHZ1608FR82 ☐ T	820	J,K	515.9	3815	7.9	410	0.69	400
WHZ1608F1R0 ☐ T	1000	J,K	706.2	357	7.9	190	0.81	400
WHZ1608F1R2 ☐ T	1200	J,K	858.8	169.8	7.9	160	0.87	370
WHZ1608F1R5 ☐ T	1500	J,K	2222	66.98	7.9	100	0.96	350

SPECIFICATIONS

WHZ1608 TYPE

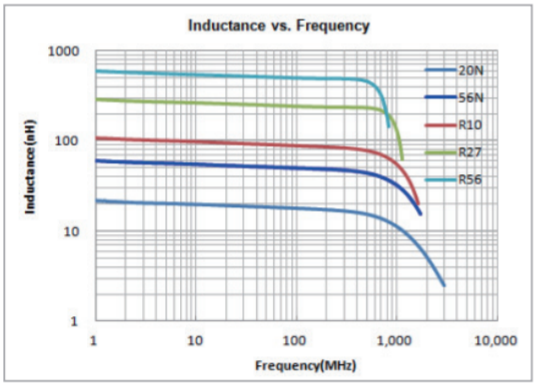
Part Number	Inductance	Tolerance	Typ.Impedance		L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
			100MHz	900MHz				
Units	nH	-	Ω	Ω	MHz	MHz	Ω	mA
Symbol	L	-	Z	Z	Freq.	S.R.F	DCR	Ir
WHZ1608F1R8 □ T	1800	J,K	5760	94.58	7.9	80	1.1	350
WHZ1608F2R2 □ T	2200	J,K	3036	32	7.9	68	1.2	320
WHZ1608F2R7 □ T	2700	J,K	1808	32.54	7.9	60	1.5	280
WHZ1608F3R3 □ T	3300	J,K	742.0	27.89	7.9	42	1.5	280
WHZ1608F3R9 □ T	3900	J,K	631.0	72	7.9	40	1.6	280
WHZ1608F4R7 □ T	4700	J,K	573.8	40.75	7.9	34	2.1	260
WHZ1608F5R6 □ T	5600	J,K	516.8	55.83	7.9	32	2.6	240
WHZ1608F6R8 □ T	6800	J,K	648.3	41.4	7.9	31	3.1	200
WHZ1608F7R8 □ T	7800	J,K	457.7	28.32	7.9	28	3.5	200
WHZ1608F8R2 □ T	8200	J,K	640.7	57.50	7.9	26	3.6	190
WHZ1608F100 □ T	10000	J,K	950.8	85.18	2.5	25	4.8	180
WHZ1608F150 □ T	15000	J,K	863.7	56.3	2.5	23	7.1	170
WHZ1608F180 □ T	18000	J,K	746.4	83.67	2.5	22	7.6	160
WHZ1608F220 □ T	22000	J,K	400	15	2.5	15	8.81	130

※□: Please specify the inductance tolerance code (J=±5%, K=±10%).

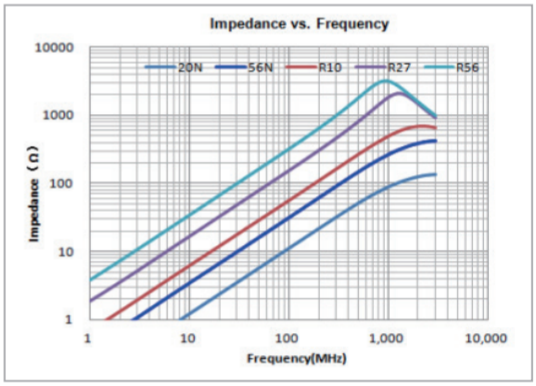
TYPICAL ELECTRICAL CHARACTERISTICS

WHZ1005 TYPE

Inductance vs. Frequency Characteristics

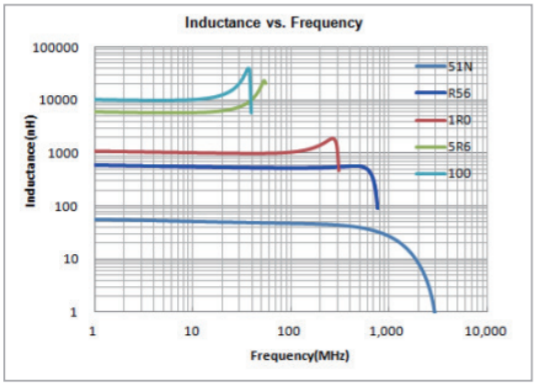


Impedance vs. Frequency Characteristics

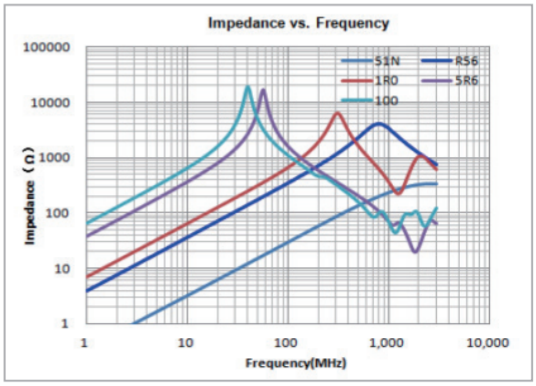


WHZ1608 TYPE

Inductance vs. Frequency Characteristics

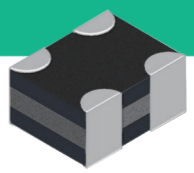


Impedance vs. Frequency Characteristics



Multilayer Chip Common Mode Filter– SDMM Series

Operating temp. : -40°C ~+85°C



FEATURES

- Effective for suppressing common mode noise at high frequency
- Excellent solderability characteristics
- Small size & low profile
- Multilayer type SMD component based on LTCC technology

APPLICATIONS

- Common mode noise suppression of high speed differential signal lines,such as MIPI, MHL, HDMI in mobile phone, tablet PC, TV etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6
SDMM	0806	U	-2	900	T

1

Type	
SDMM	Multilayer Chip Common Mode Filter

2

External Dimensions (L×W) (mm)	
0605	0.65×0.50
0806	0.85×0.65
0906	0.90×0.68

3

Feature Type	
H	for High-Speed Differential Signal Lines
U	for Ultra High Speed Differential Signal Lines

4

Number of Lines	
2	2 Lines
3	3 Lines

5

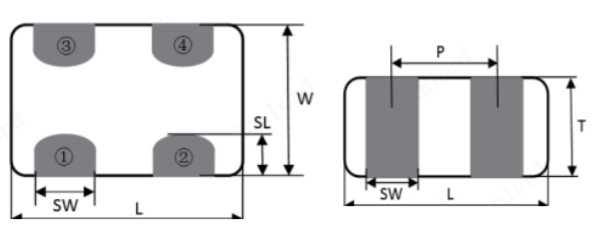
Common Mode Impedance (Ω)	
Example	Nominal Value
350	35
900	90

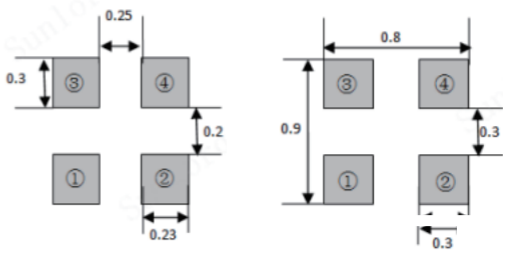
6

Packing	
T	Tape & Reel

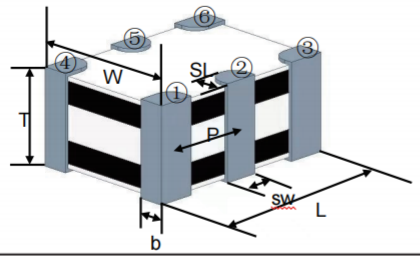
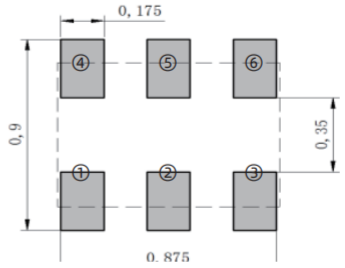
SHAPE DIMENSIONS AND LAND-PATTERN

Type: SDMM0605 &SDMM0806	Land Pattern





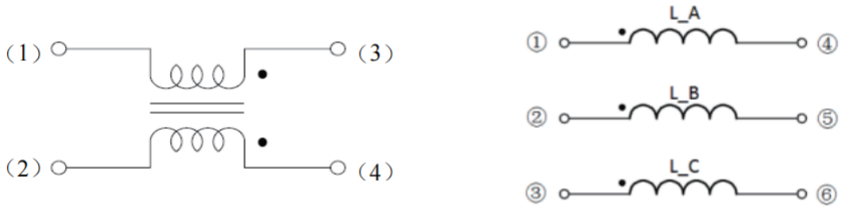
SHAPE DIMENSIONS AND LAND-PATTERN

Type: SDMM0906	Land Pattern
	

Unit: mm

Type	L	W	T	SL	SW	P	b
SDMM0605	0.65±0.05	0.50±0.05	0.30±0.05	0.12+0.1/-0.05	0.15+0.1/-0.05	0.40±0.10	/
SDMM0806	0.85±0.05	0.65±0.05	0.40±0.05	0.20+0.05/-0.10	0.27±0.05	0.50±0.05	/
SDMM0906	0.90±0.05	0.68±0.05	0.40±0.05	0.12±0.10	0.15±0.10	0.35±0.10	SL

EQUIVALENT CIRCUIT



SPECIFICATIONS

SDMM0605H Series

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Withstand Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	Vp	IR
SDMM0605H-2-900T	90±20%	5.0	100	5	12.5	100

SDMM0906H Series

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Withstand Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	Vp	IR
SDMM0906H-3-300T	30±20%	4.0	20	12.5	100

SDMM0605U Series

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Withstand Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	Vp	IR
SDMM0605U-2-120T	12±5	2.5	50	5	12.5	100
SDMM0605U-2-250T	25±20%	3.5	50	5	12.5	100

SPECIFICATIONS

SDMM0806U Series

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Min. Insulation Resistance	Cutoff Frequency (typ.)
Units	Ω	Ω	mA	MΩ	GHz
Symbol	Z	DCR	Ir	IR	f0
SDMM0806U-2-120T	12±5	2.5	130	100	>8
SDMM0806U-2-350T	35±20%	3.5	100	100	>6
SDMM0806U-2-470T	47±20%	4.0	100	100	6
SDMM0806U-2-900T	90±20%	4.5	100	100	3.5

Note: Absolute maximum long term direct-current voltage between D+ and D-of differential lines: DC 1.5V

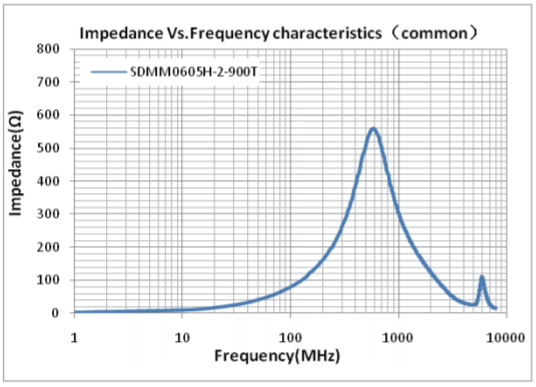
SDMM0806U-J01 Series

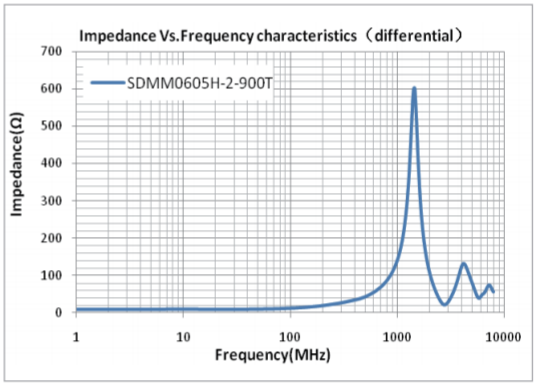
Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Direct Current Volts	Withstand Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	Volts	MΩ
Symbol	Z	DCR	Ir	Vdcc*	Vp	IR
SDMM0806U-2-120TJ01	12±5	2.5	130	1.5	12.5	100
SDMM0806U-2-900TJ01	90±20%	4.5	100	1.5	12.5	100

*Note: Vdcc is a long term direct-current voltage difference which between D+ and D- of differential lines.

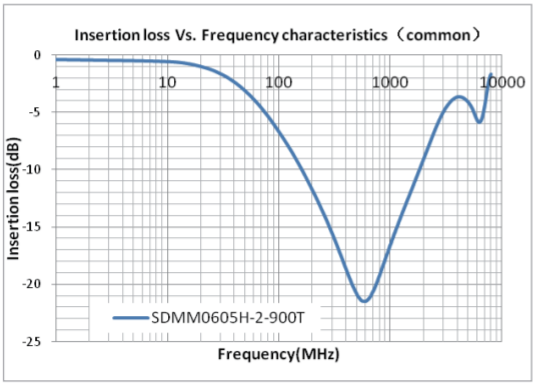
ELECTRICAL CHARACTERISTICS

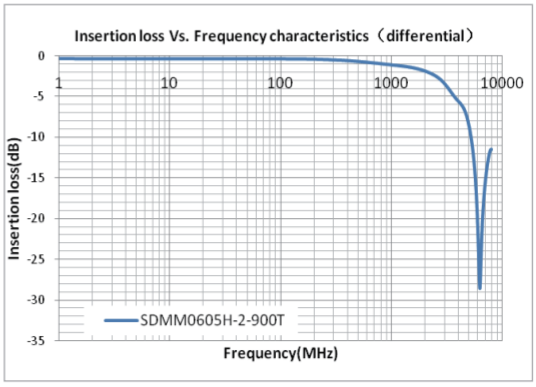
SDMM0605H Series





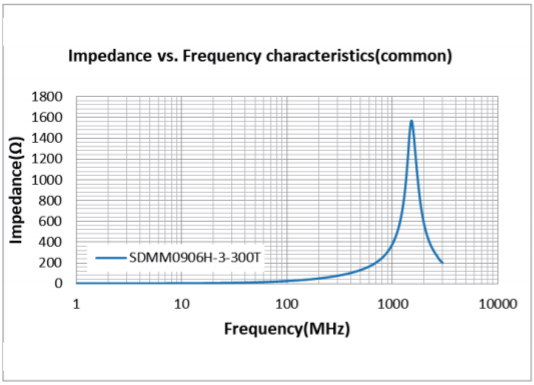
SDMM0605H Series

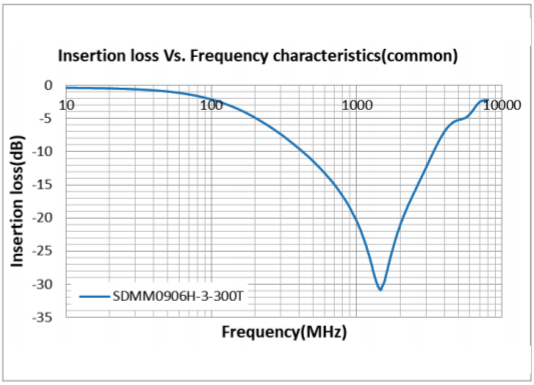


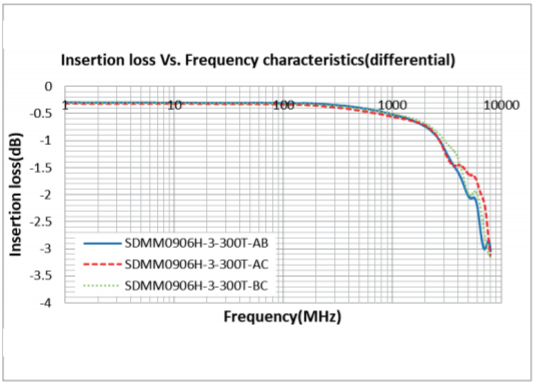


ELECTRICAL CHARACTERISTICS

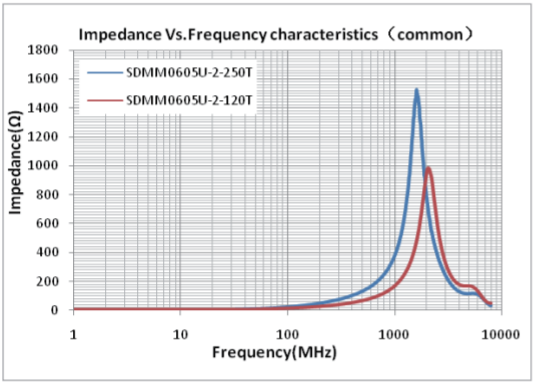
SDMM0906H Series

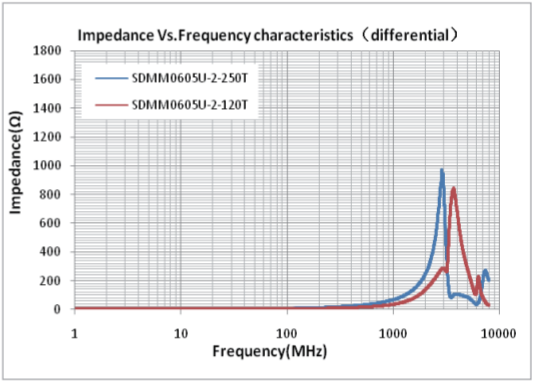


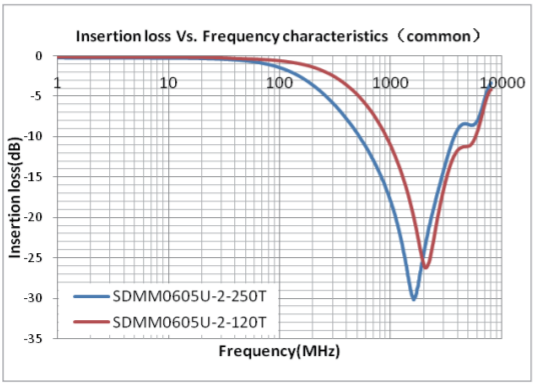


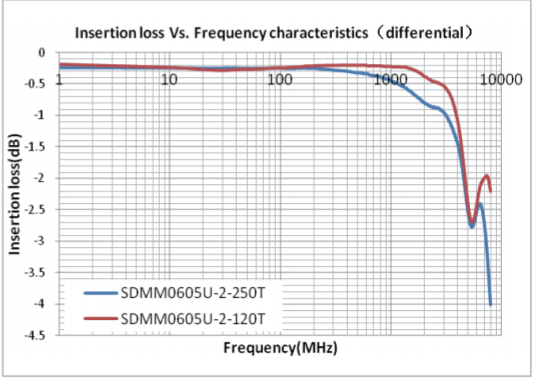


SDMM0605U Series



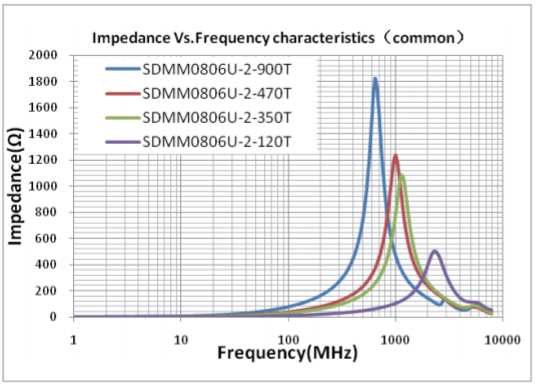


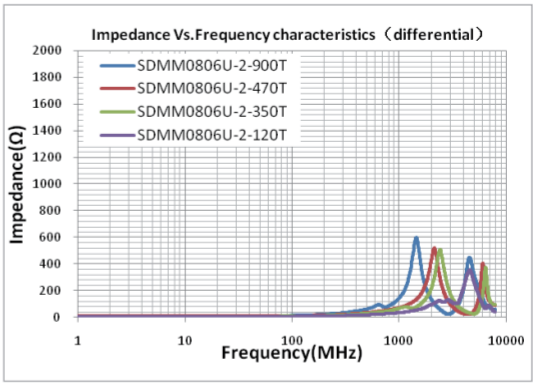


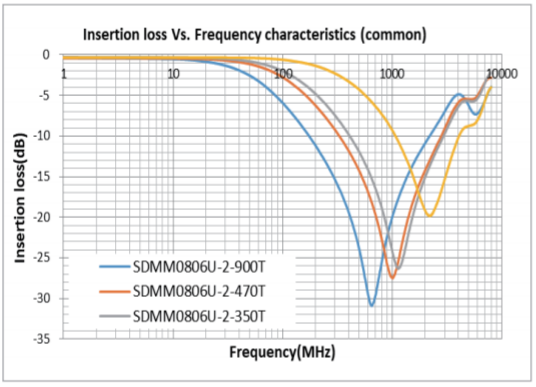


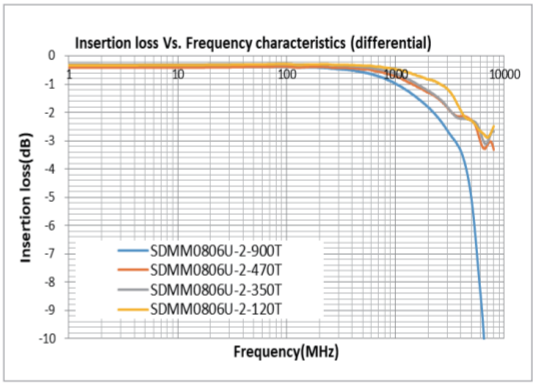
ELECTRICAL CHARACTERISTICS

SDMM0806U Series

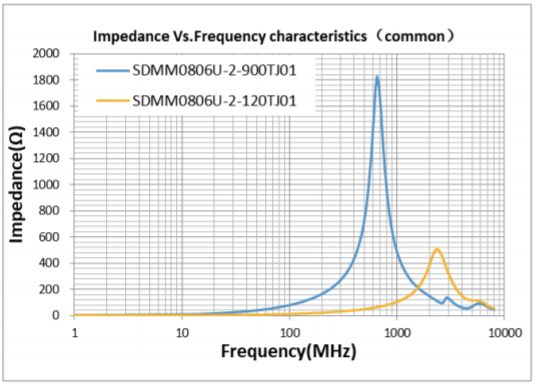


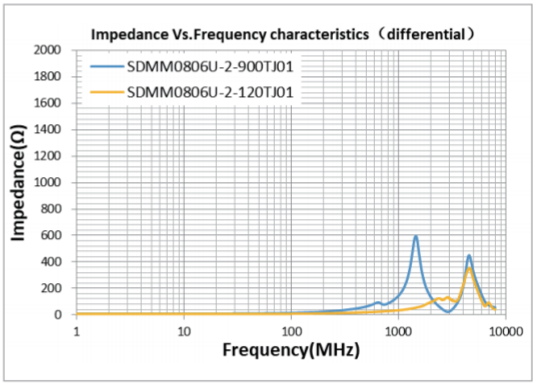


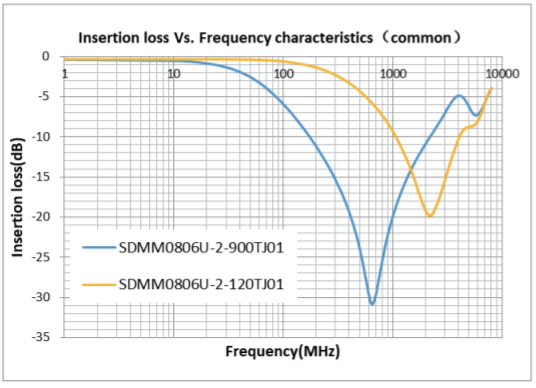


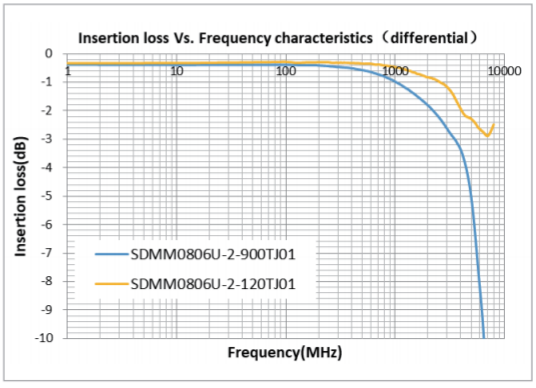


SDMM0806U_J01 Series









Wire Wound Chip Common Mode Choke Coil – SDCW Series

Operating temp.: -40°C ~+85°C

FEATURES

- Winding type realizes small size and low frofile.
- Prevention of common mode noise at high frequency.
- 30Ω~2200Ω are optional for different noise level and signal frequency.
- Excellent solderability.

APPLICATIONS

- USB2.0 of PC, peripheral equipments, small digital AV equipments, etc.
- LVDS lines of Note PC, LCD
- Audio lines

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
SDCW	2012	(L)	-2	-900	T	F

1

Type	
SDCW	Winding Type Common Mode Choke Coil

2

External Dimensions (L×W) (mm)	
2012 [0805]	2.0×1.2
3216 [1206]	3.2×1.6

3

Code	
L	Larger Current

6

Packing	
T	Tape & Reel

4

Number of Lines
2

5

Impedance	
Example	Nominal Value
900	90Ω

7

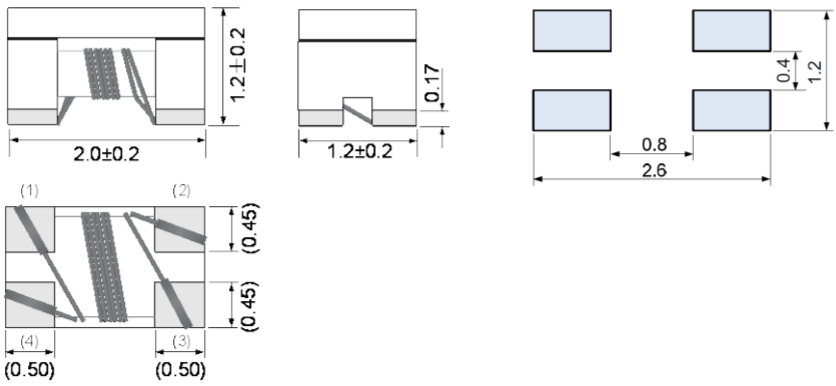
Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS

SDCW2012 Type

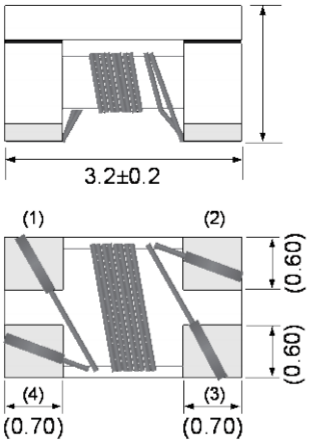
Recommended Land Pattern

Unit: mm

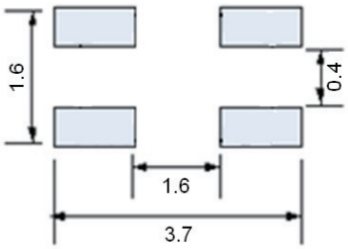


SHAPE AND DIMENSIONS

SDCW3216 Type



Recommended Land Pattern



Unit: mm

SPECIFICATIONS

SDCW2012(L) TYPE

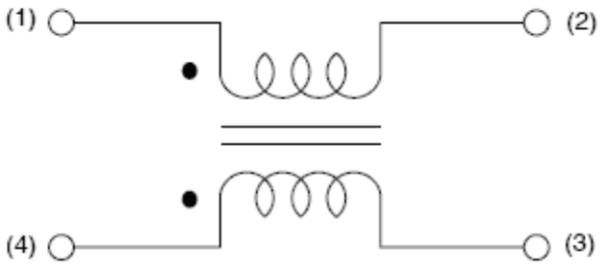
Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW2012-2-300TF	30±25%	0.20	450	50	10
SDCW2012-2-670TF	67±25%	0.25	400	50	10
SDCW2012-2-750TF	75±25%	0.25	400	50	10
SDCW2012-2-900TF	90±25%	0.35	330	50	10
SDCW2012-2-121TF	120±25%	0.30	370	50	10
SDCW2012-2-181TF	180±25%	0.35	330	50	10
SDCW2012-2-201TF	200±25%	0.40	300	50	10
SDCW2012-2-221TF	220±25%	0.40	300	50	10
SDCW2012-2-261TF	260±25%	0.40	300	50	10
SDCW2012-2-361TF	360±25%	0.45	280	50	10
SDCW2012-2-371TF	370±25%	0.45	280	50	10
SDCW2012-2-471TF	470±25%	0.77	240	50	10
SDCW2012-2-601TF	600±25%	0.55	200	50	10
SDCW2012-2-751TF	750±25%	0.70	180	50	10
SDCW2012-2-901TF	900±25%	0.80	150	50	10
SDCW2012-2-102TF	1000±25%	0.80	150	50	10
SDCW2012L-2-900TF	90±25%	0.19	400	50	10
SDCW2012L-2-121TF	120±25%	0.22	370	50	10
SDCW2012L-2-201TF	200±25%	0.25	350	50	10

SDCW3216 TYPE

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW3216-2-900TF	90±25%	0.30	370	50	10
SDCW3216-2-161TF	160±25%	0.40	340	50	10
SDCW3216-2-261TF	260±25%	0.50	310	50	10
SDCW3216-2-601TF	600±25%	0.80	260	50	10
SDCW3216-2-102TF	1000±25%	1.00	230	50	10
SDCW3216-2-222TF	2200±25%	1.20	200	50	10

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

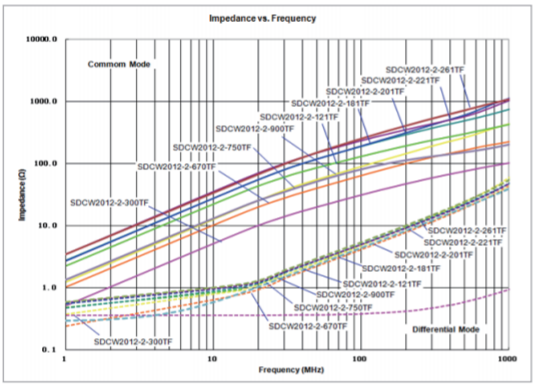
EQUIVALENT CIRCUIT



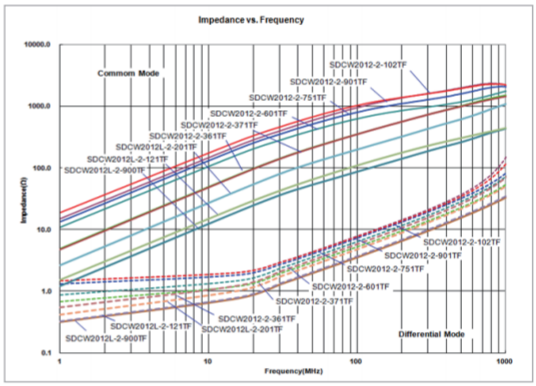
TYPICAL ELECTRICAL CHARACTERISTICS

Impedance vs. Frequency

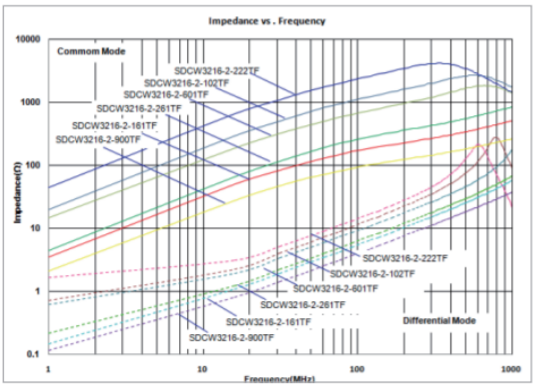
SDCW2012 TYPE
(30~260Ω)



SDCW2012 TYPE
(360~1000Ω)



SDCW3216 TYPE
(90~2200Ω)



Wire Wound Chip Common Mode Choke Coil – SDCW-S Series

Operating temp. : -40°C ~+85°C

FEATURES

- Prevention of common mode noise at high frequency.
- 20Ω~1400Ω are optional for different noise level and signal frequency.
- Excellent solderability.

APPLICATIONS

- USB2.0 of IEEE1394, PC, peripheral equipments, small digital AV equipments, etc.
- LVDS lines of Note PC, LCD
- Audio lines.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
SDCW	1608	S	-2	-900	T	F

1

Type	
SDCW	Winding Type Common Mode Choke Coil

2

External Dimensions (L×W) (mm)	
1210 [0504]	1.2×1.0
1608 [0603]	1.6×0.8
2520 [1008]	2.5×2.0
3225 [1210]	3.2×2.5
4532 [1812]	4.5×3.2

3

Code	
S	Standard
L	For larger current

4

Number of Lines
2

5

Impedance	
Example	Nominal Value
900	90Ω

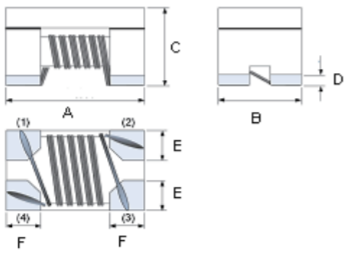
6

Packing	
T	Tape & Reel

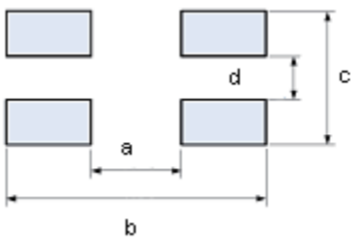
7

Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS



Recommended Land Pattern



Unit: mm

Series	A	B	C	D Max.	E Typ.	F Typ.	a Typ.	b Typ.	c Typ.	d Typ.
SDCW1210	1.2±0.2	1.0±0.2	0.8±0.1	0.10	0.36	0.33	0.50	1.55	1.00	0.30
SDCW1608	1.6±0.1	0.8±0.1	1.1±0.1	0.10	0.25	0.33	0.73	1.89	0.85	0.25
SDCW2520	2.5±0.2	2.0±0.2	1.2±0.2	0.20	0.60	0.45	1.20	3.20	2.00	0.60
SDCW3225	3.2±0.2	2.5±0.2	1.8±0.2	0.30	0.80	0.60	2.20	4.00	2.50	0.90
SDCW4532	4.5±0.2	3.2±0.2	2.8±0.2	0.50	1.10	0.80	2.70	5.10	3.20	1.00

SPECIFICATIONS

SDCW1210S TYPE

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW1210S-2-200TF	20±25%	0.15	500	20	10
SDCW1210S-2-350TF	35±25%	0.18	430	20	10
SDCW1210S-2-600TF	60±25%	0.30	400	20	10
SDCW1210S-2-900TF	90±25%	0.30	400	20	10
SDCW1210S-2-121TF	120±25%	0.40	260	20	10
SDCW1210S-2-161TF	160±25%	0.40	260	20	10
SDCW1210S-2-201TF	200±25%	0.40	250	20	10
SDCW1210S-2-361TF	360±25%	0.55	250	20	10

SDCW1608S TYPE

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW1608S-2-250TF	25±25%	0.10	500	20	10
SDCW1608S-2-600TF	60±25%	0.20	350	20	10
SDCW1608S-2-900TF	90±25%	0.25	300	20	10
SDCW1608S-2-121TF	120±25%	0.25	300	20	10
SDCW1608S-2-141TF	140±25%	0.25	300	20	10
SDCW1608S-2-221TF	220±25%	0.25	300	20	10

SDCW2520S TYPE

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW2520S-2-301TF	300±25%	0.25	400	50	10
SDCW2520S-2-451TF	450±25%	0.30	350	50	10
SDCW2520S-2-601TF	600±25%	0.38	330	50	10
SDCW2520S-2-102TF	1000±25%	0.50	240	50	10

SDCW3225S TYPE

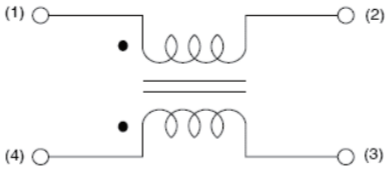
Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW3225S-2-800TF	80±25%	0.12	640	50	10
SDCW3225S-2-161TF	160±25%	0.15	480	50	10
SDCW3225S-2-271TF	270±25%	0.25	450	50	10
SDCW3225S-2-102TF	1000±25%	0.35	350	50	10
SDCW3225L-2-601TF	600±25%	0.12	1000	50	10

SDCW4532S TYPE

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW4532S-2-331TF	330±25%	0.11	1100	50	10
SDCW4532S-2-601TF	600±25%	0.12	1000	50	10
SDCW4532S-2-801TF	800±25%	0.16	900	50	10
SDCW4532S-2-102TF	1000±25%	0.18	800	50	10
SDCW4532S-2-142TF	1400±25%	0.20	700	50	10

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

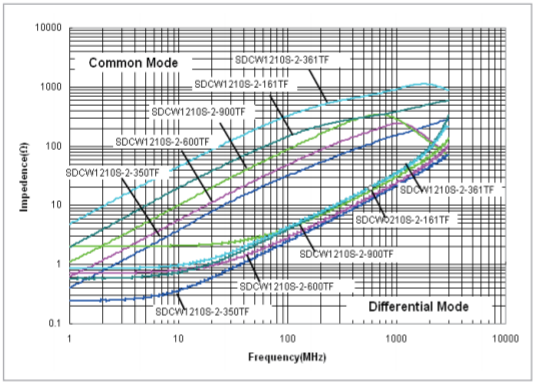
EQUIVALENT CIRCUIT



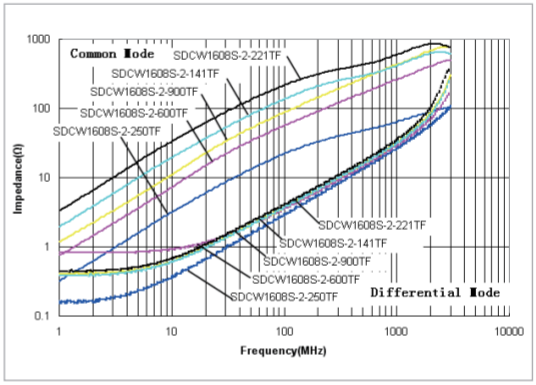
TYPICAL ELECTRICAL CHARACTERISTICS

Impedance vs. Frequency

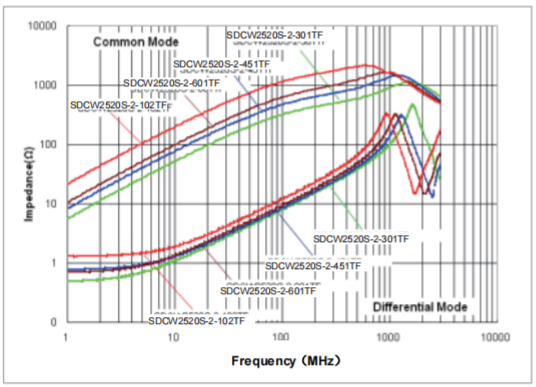
SDCW1210S TYPE



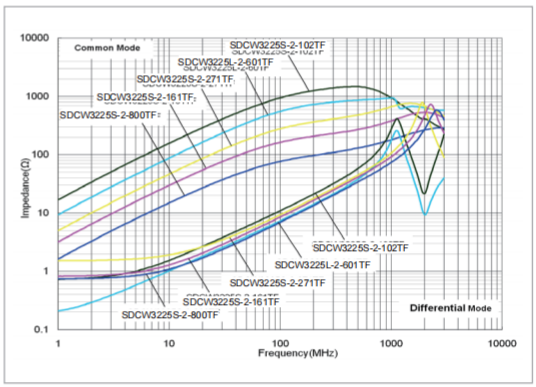
SDCW1608S TYPE



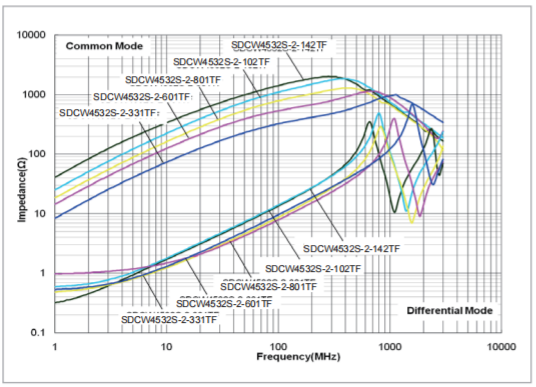
SDCW2520S TYPE



SDCW3225S TYPE



SDCW4532S TYPE



Wire Wound Chip Common Mode Choke Coil – SDCW-C Series

Operating temp. : -40°C ~+85°C

FEATURES

- Winding type and low profile.
- Prevention of common mode noise at high frequency.
- 67Ω~180Ω are optional for different noise level and signal frequency.

APPLICATIONS

- USB2.0 of PC, peripheral equipments, small digital AV equipments, etc.
- LVDS lines of Note PC, LCD.
- Audio lines.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
SDCW	2012	C	-2	-900	T	F

1

Type	
SDCW	Winding Type Common Mode Choke Coil

2

External Dimensions (L×W) (mm)	
2012 [0805]	2.0×1.3

3

Code	
C	Coating

6

Packing	
T	Tape & Reel

4

Number of Lines
2

5

Impedance	
Example	Nominal Value
900	90Ω

7

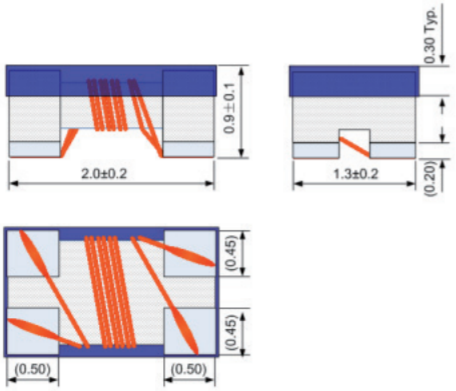
Hazardous Substance Free Products
F

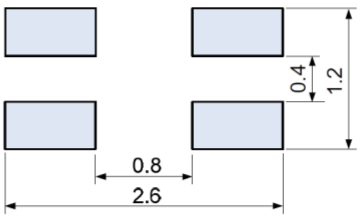
SHAPE AND DIMENSIONS

SDCW2012C TYPE

Recommended Land Pattern

Unit: mm





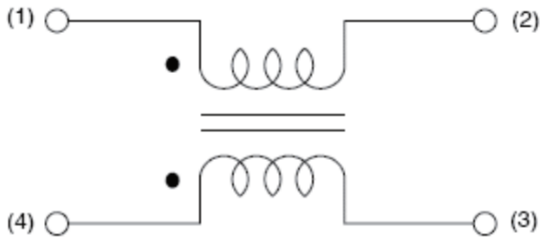
SPECIFICATIONS

SDCW2012-C TYPE

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW2012C-2-670TF	67±25%	0.35	330	50	10
SDCW2012C-2-900TF	90±25%	0.35	330	50	10
SDCW2012C-2-121TF	120±25%	0.45	280	50	10
SDCW2012C-2-181TF	180±25%	0.50	250	50	10

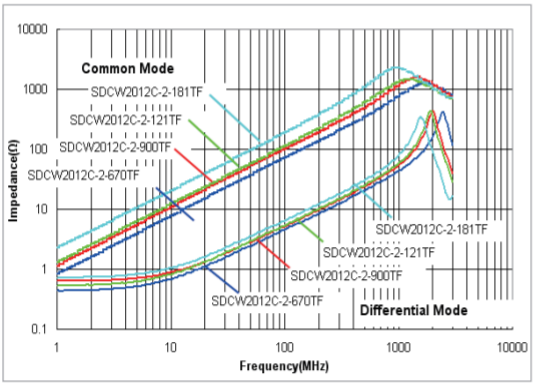
※Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

EQUIVALENT CIRCUIT



TYPICAL ELECTRICAL CHARACTERISTICS

Impedance vs. Frequency



Wire Wound Chip Common Mode Choke Coil – SDCW-CH Series

Operating temp. : -40°C ~+85°C

FEATURES

- Winding type realizes small size and low profile.
- Suppress noise for the high-speed differential signal lines.
- Excellent solder ability.

APPLICATIONS

- High speed differential signal lines for HDMI, DVI, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
SDCW	2012	CH	-2	-900	T	F

1

Type	
SDCW	Winding Type Common Mode Choke Coil

2

External Dimensions (L×W) (mm)	
2012 [0805]	2.0×1.3

3

Code	
CH	HDMI、DVI Coating & For HDMI and DVI

6

Packing	
T	Tape & Reel

4

Number of Lines
2

5

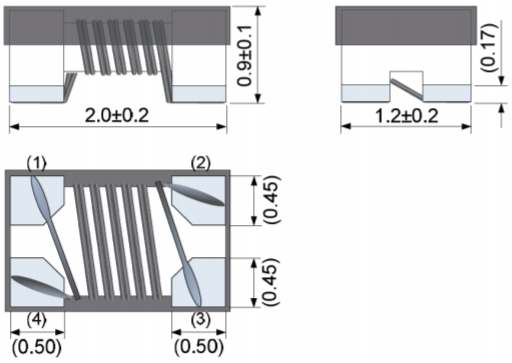
Impedance	
Example	Nominal Value
900	90Ω

7

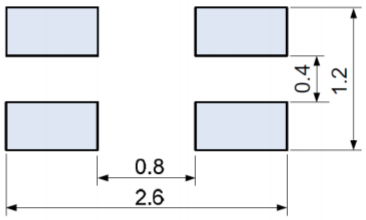
Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS

SDCW2012CH TYPE



Recommended Land Pattern



Unit: mm

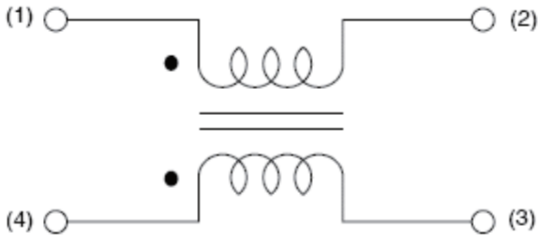
SPECIFICATIONS

SDCW-CH TYPE

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW2012CH-2-670TF	67±25%	0.50	250	50	10
SDCW2012CH-2-900TF	90±25%	0.60	200	50	10
SDCW2012CH-2-121TF	120±25%	0.60	200	50	10

※Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

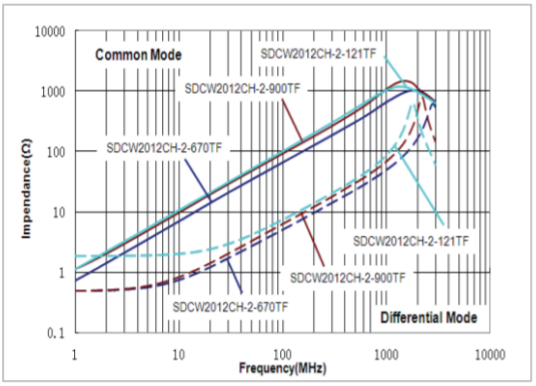
EQUIVALENT CIRCUIT

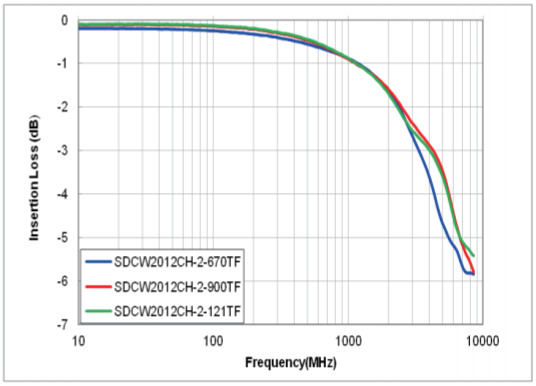


TYPICAL ELECTRICAL CHARACTERISTICS

Impedance vs. Frequency

SDCW2012CH TYPE





Wire Wound Chip Common Mode Choke Coil – SDCW-H Series

Operating temp. : -40°C ~+85°C

FEATURES

- Winding type realizes small size and low profile.
- Suppress noise for the high-speed differential signal lines.
- Excellent solder ability.

APPLICATIONS

- High speed differential signal lines for HDMI, DVI, etc.

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
SDCW	2012	H	-2	-900	T	F

1

Type	
SDCW	Winding Type Common Mode Choke Coil

2

External Dimensions (L×W) (mm)	
1210 [0504]	1.2×1.0
2012 [0805]	2.0×1.2

3

Code	
H	For High-speed Differential Signal Lines

4

Number of Lines
2

5

Impedance	
Example	Nominal Value
900	90Ω

6

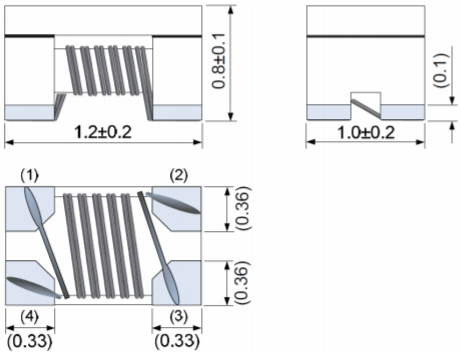
Packing	
T	Tape & Reel

7

Hazardous Substance Free Products
F

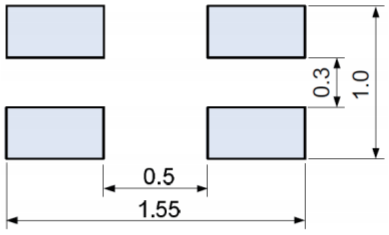
SHAPE AND DIMENSIONS

SDCW1210H TYPE



Recommended Land Pattern

Unit: mm

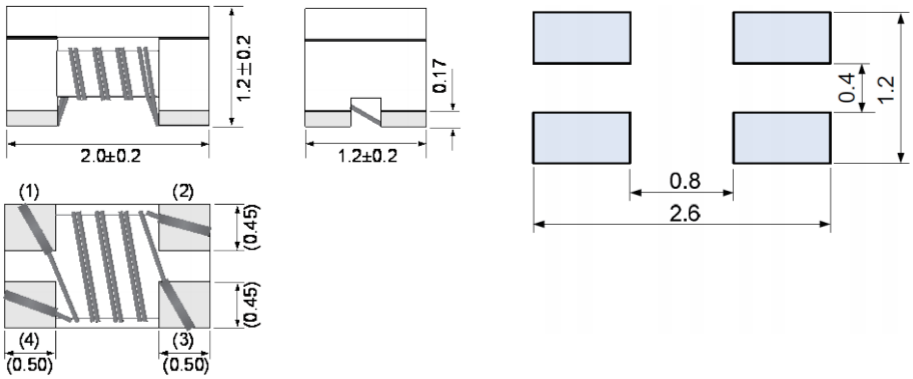


SHAPE AND DIMENSIONS

SDCW2012H TYPE

Recommended Land Pattern

Unit: mm



SPECIFICATIONS

SDCW1210H TYPE

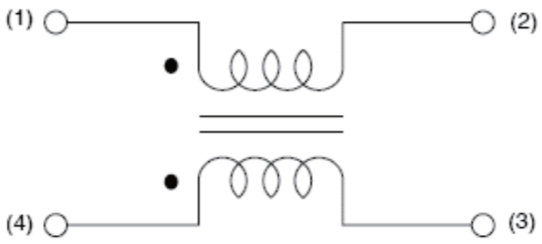
Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW1210H-2-350TF	35±25%	0.32	320	20	10
SDCW1210H-2-900TF	90±25%	0.50	280	20	10

SDCW2012H TYPE

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW2012H-2-670TF	67±25%	0.30	320	20	10
SDCW2012H-2-900TF	90±25%	0.40	280	20	10
SDCW2012H-2-121TF	120±25%	0.40	280	20	10

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

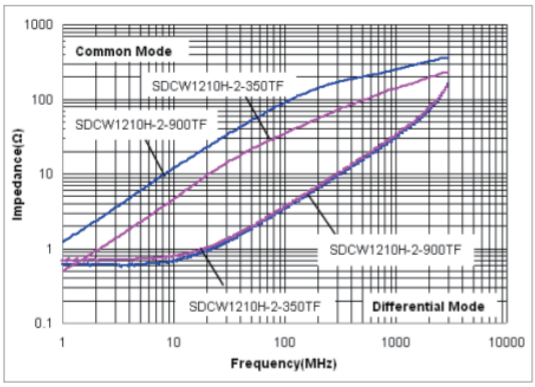
EQUIVALENT CIRCUIT



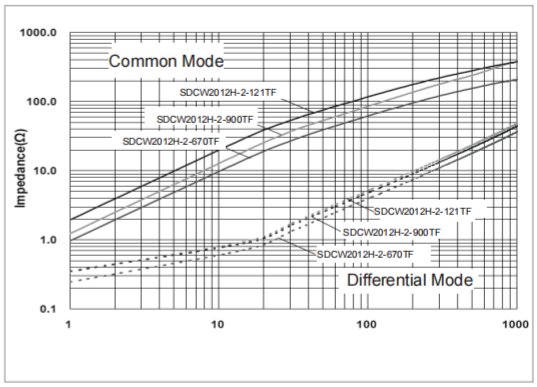
TYPICAL ELECTRICAL CHARACTERISTICS

Impedance vs. Frequency

SDCW1210H TYPE

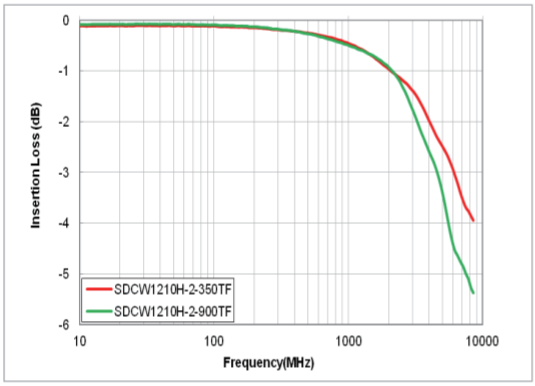


SDCW2012H TYPE

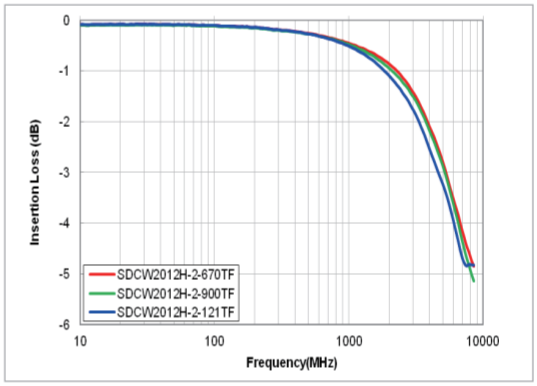


Insertion Loss

SDCW1210H TYPE

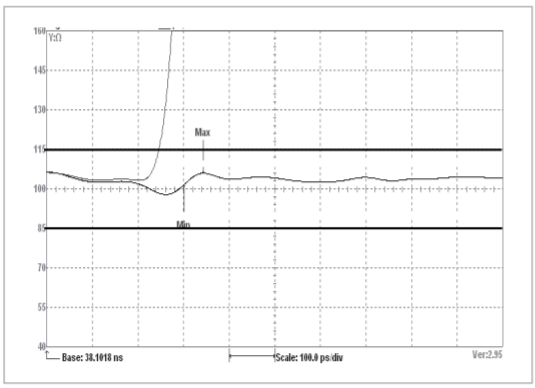


SDCW2012H TYPE



Differential Mode Impedance Characteristics

SDCW2012H-2-900TF



Wire Wound Chip Common Mode Choke Coil – SDCW-U Series

Operating temp. : -40°C ~+85°C

FEATURES

- Winding type realizes small size and low profile.
- Prevention of common mode noise at high frequency.
- Excellent solderability.

APPLICATIONS

- Super speed differential signal lines for USB3.0

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
SDCW	2012	U	-2	-900	T	F

1

Type	
SDCW	Winding Type Common Mode Choke Coil

2

External Dimensions (L×W) (mm)	
1210 [0504]	1.2×1.0
2012 [0805]	2.0×1.2

3

Code	
U	For SuperSpeed Differential Signal Lines

4

Number of Lines
2

5

Impedance	
Example	Nominal Value
900	90Ω

6

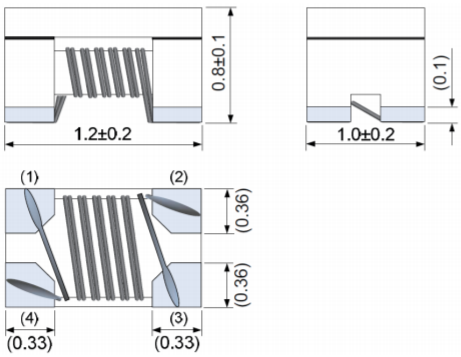
Packing	
T	Tape & Reel

7

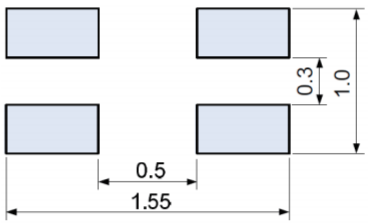
Hazardous Substance Free Products
F

SHAPE AND DIMENSIONS

SDCW1210U TYPE



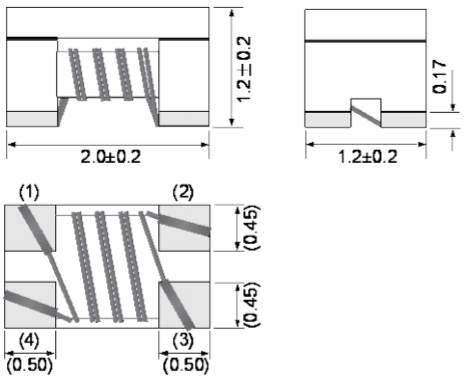
Recommended Land Pattern



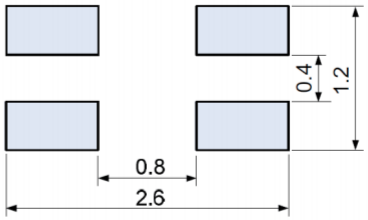
Unit: mm

SHAPE AND DIMENSIONS

SDCW2012U TYPE



Recommended Land Pattern



Unit: mm

SPECIFICATIONS

SDCW1210U TYPE

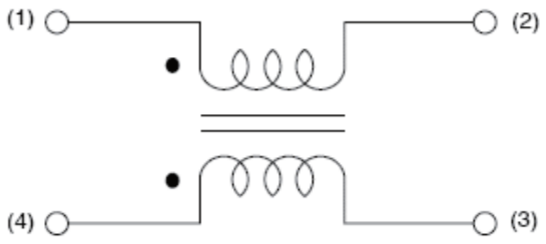
Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW1210U-2-140TF	14±25%	0.12	600	20	10
SDCW1210U-2-600TF	60±25%	0.40	300	20	10
SDCW1210U-2-900TF	90±25%	0.50	280	20	10

SDCW2012U TYPE

Part Number	Common Mode Impedance @ 100MHz	Max. DC Resistance	Max. Rated Current	Rated Voltage	Min. Insulation Resistance
Units	Ω	Ω	mA	Volts	MΩ
Symbol	Z	DCR	Ir	V_{DC}	IR
SDCW2012U-2-900TF	90±25%	0.40	280	20	10

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

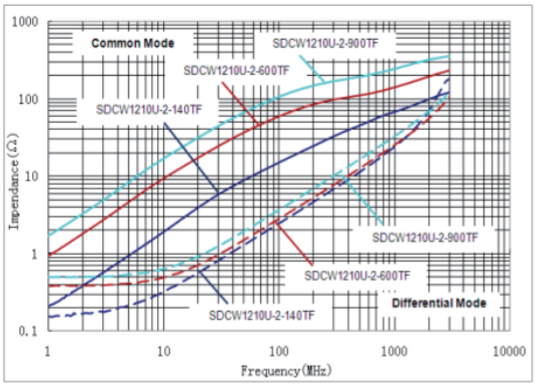
EQUIVALENT CIRCUIT



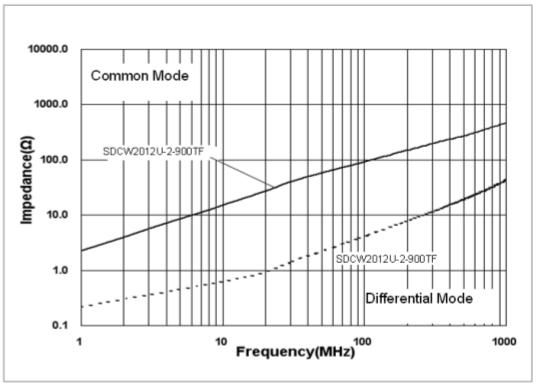
TYPICAL ELECTRICAL CHARACTERISTICS

Impedance vs. Frequency

SDCW1210U TYPE

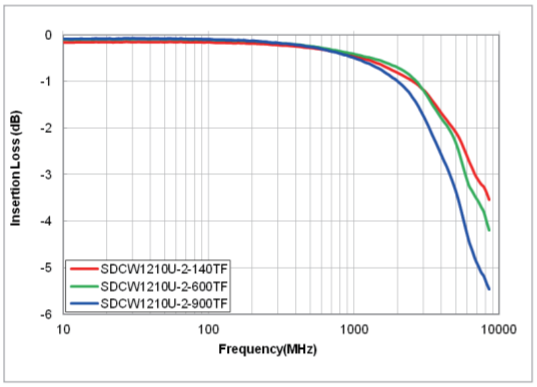


SDCW2012U TYPE

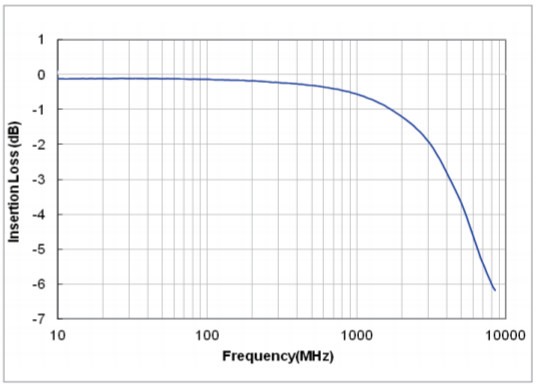


Insertion Loss

SDCW1210U TYPE

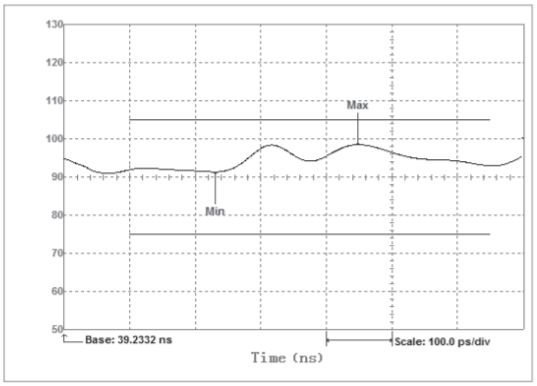


SDCW2012U TYPE



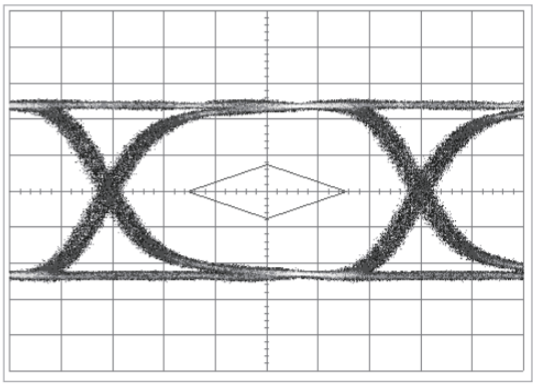
Differential Mode Impedance Characteristics

SDCW2012U-2-900TF



Eye Diagram in USB3.0

SDCW2012U-2-900TF

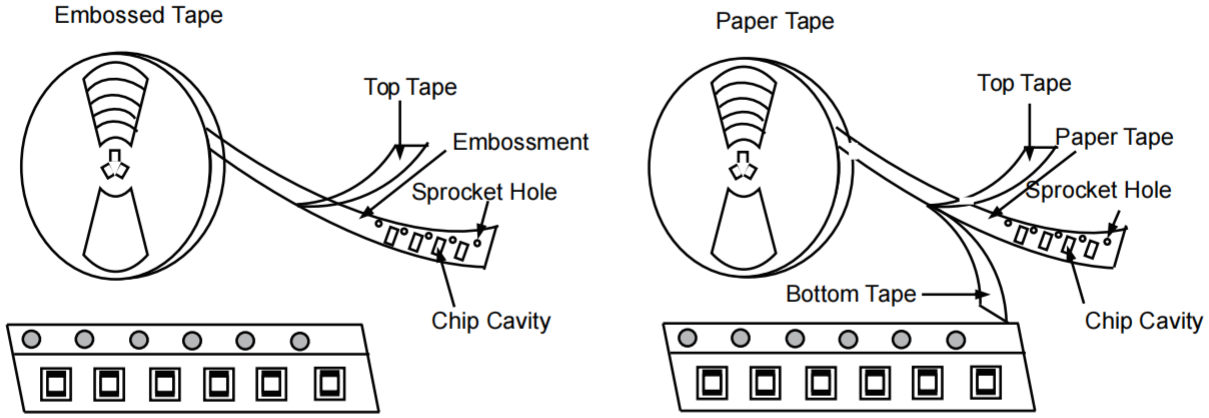


PACKAGING

PACKAGING

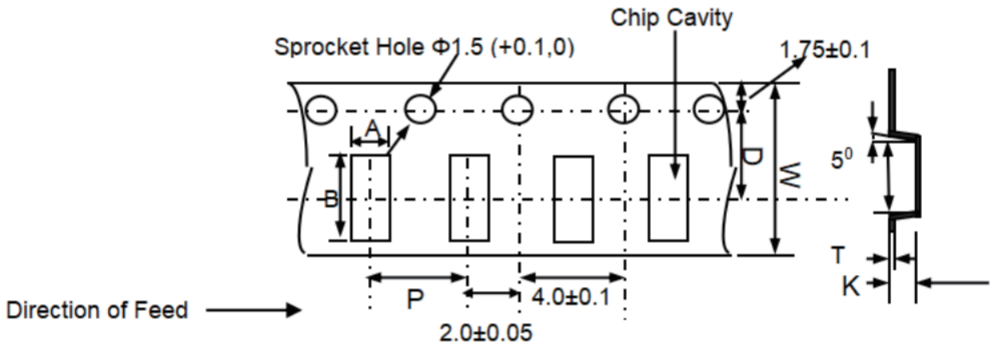
◆ TAPING DRAWINGS

Embossed Tape



◆ TAPING DIMENSIONS (Unit: mm)

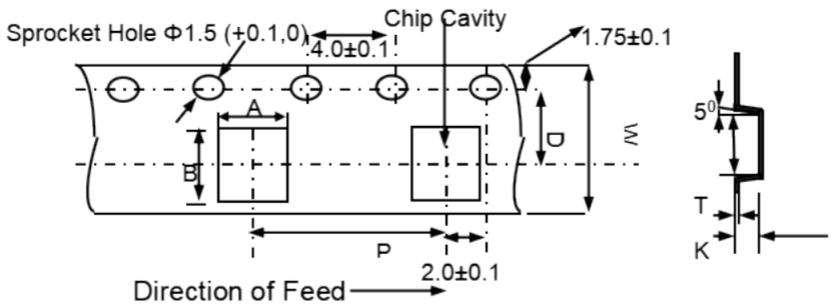
1. Embossed Tape (8/12mm Wide Tape)



Type	Chip Thickness	W	A	B	D	P	K max	T max	Quantity (pcs/reel)
WHZ1005	0.55	8.0	0.66	1.2	3.5	2.0	0.65	0.06	10,000/ 5,000
WHZ1608	0.80	8.0	1.05	1.85	3.5	4.0	0.95	0.30	3,000
PZ3216	1.10	8.0	1.88	3.50	3.50	4.0	1.27	0.30	3,000
MZPA3216	1.10	8.0	1.88	3.50	3.50	4.0	1.35	0.24	3,000
PZ4516	1.60	12.0	1.90	4.90	5.50	4.0	1.88	0.32	2,000
MZAS2016	0.90	8.0	1.90	2.30	3.50	4.0	1.45	0.30	3,000
MZPA2016	0.90	8.0	1.90	2.30	3.50	4.0	1.20	0.30	3,000
MZPA2520	1.10	8.0	2.3	2.80	3.50	4.0	1.45	0.30	3,000
MZPA3225	1.10	8.0	2.7	3.5	3.5	4.0	1.4	0.35	2,000
SDCW1210	0.80	8.0	1.16	1.41	3.50	4.0	0.99	0.25	3,000
SDCW1608	1.10	8.0	0.90	1.75	3.50	4.0	1.31	0.25	3,000
SDCW2012	0.90/1.20	8.0	1.55	2.25	3.50	4.0	1.20/1.55	0.30	2,000
SDCW2012/SDCW2012H/ SDCW2012U	1.20	8.0	1.55	2.25	3.50	4.0	1.55	0.30	2,000
SDCW2012C/SDCW2012CH	0.90	8.0	1.55	2.25	3.50	4.0	1.20	0.30	2,000
SDCW2520	1.20	8.0	2.25	2.75	3.50	4.0	1.55	0.27	2,000
SDCW3216	1.80	8.0	1.88	3.53	3.50	4.0	2.00	0.26	2,000
SDCW3225	1.80	12.0	2.70	3.50	5.50	8.0	2.01	0.35	3,000
SDCW4532	2.80	12.0	3.51	4.82	5.50	8.0	3.15	0.40	2,000

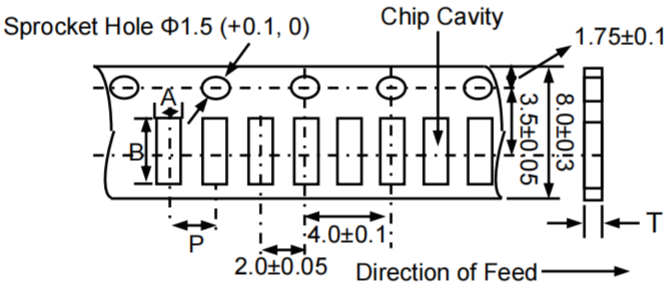
PACKAGING

2. Embossed Tape (12mm Wide Tape)



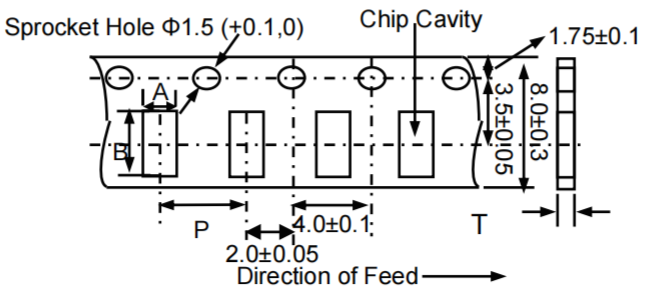
Type	Chip Thickness	W	A	B	D	P	K max	T max	Quantity (pcs/reel)
EPZ4030	1.60	12.0	3.40	4.50	5.50	8.0	1.80	0.32	4,000

3. Paper Tape (8mm Wide Tape Series)



Type	Chip Thickness	A	B	P	T max	Quantity (pcs/reel)
GZ/GZ-C/SZ/PZ/UPZ0603	0.30	0.40	0.70	2.0	0.55	15,000
GZ/GZ-C/SZ/SZ-C/HZ/HPZ/HFZ/HFPZ/PZ/UPZ/ EPZ/ MZAH/MZAS1005	0.50	0.65	1.15	2.0	0.80	10,000
SDMM0605	0.40	0.58	0.72	2.0	0.55	10,000
SDMM0806	0.40	0.80	1.00	2.0	0.55	10,000
SDMM0906	0.40	0.85	1.08	2.0	0.63	10,000

4. Paper Tape (8mm Wide Tape)

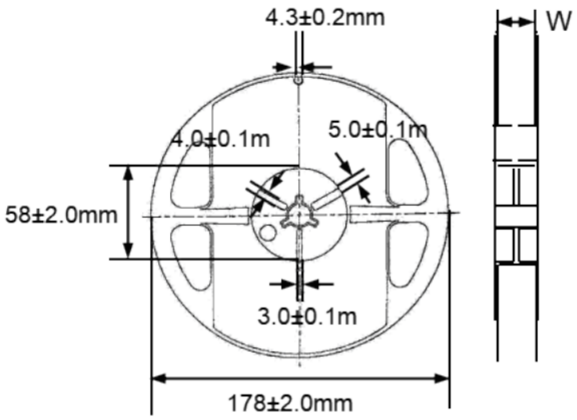


PACKAGING

Type	Chip Thickness	A	B	P	T max	Quantity (pcs/reel)
GZ/GZ-C/SZ/SZ-C/PZ/UPZ/HZ/HPZ/HFZ/HFPZ/MZAH/MZAS1608	0.80	1.00	1.80	4.0	1.10	4,000
GZ/SZ/PZ/UPZ2012	0.85	1.50	2.30	4.0	1.10	4,000
GZ/PZ3216	0.85	1.90	3.50	4.0	1.10	3,000

◆ TAPING DRAWINGS

1.GZ/GZ-C/SZ/SZ-C/PZ/UPZ/HZ/HPZ/HFZ/HFPZ/EPZ1005/MZAH/MZAS/MZPA/WHZ/SDCW1608-3216/SDMM Series



※For PZ4516 Series, W=13.6+1.0/-1.0mm; For MZPA3225/WHZ/SDCW Series ,W= 10+1.5/-1.5mm ;For others, W=8.4+1.5/-0.0mm.

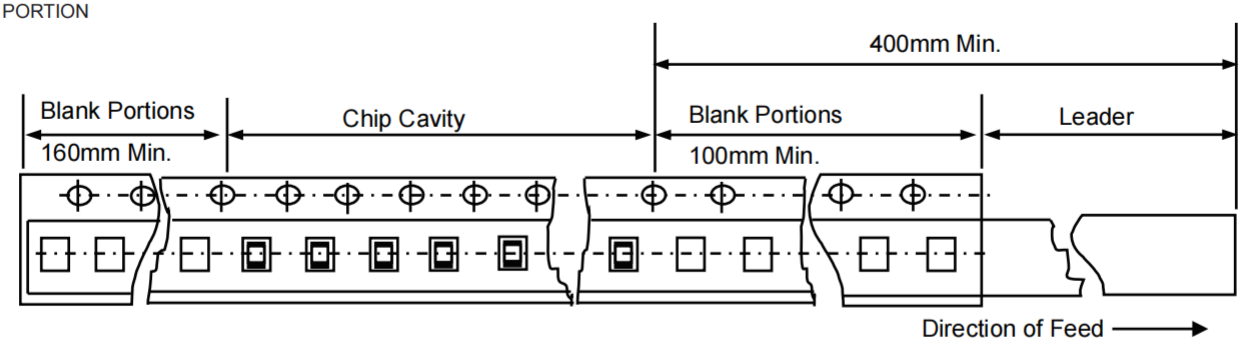
2.SDCW3225/4532/EPZ4030 Series

Type	Spec.	Dimensions(mm)		
		A	W	C
SDCW3225	13"*12mm	330	12.8	100
SDCW4532	13"*12mm	330	12.4	97
EPZ4030	13"*12mm	330	12.6	100

PACKAGING

◆ LEADER AND BLANK

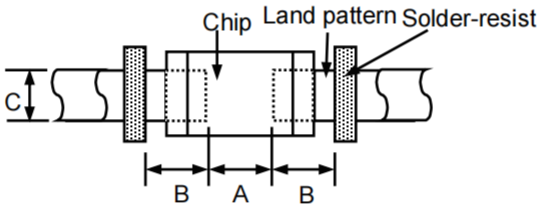
PORTION



PCB

RECOMMENDED PCB DESIGN FOR SMT LAND-PATTERNS

When chips are mounted on a PCB, the amount of solder used (size of fillet) can directly affect chip performance. Therefore, the following items must be carefully considered in the design of solder land patterns: (1) The amount of solder applied can affect the ability of chips to withstand mechanical stresses which may lead to breaking or cracking. Therefore, when designing land-patterns it is necessary to consider the appropriate size and configuration of the solder pads which in turn determines the amount of solder necessary to form the fillets.
(2) When more than one part is jointly soldered onto the same land or pad, the pad must be designed that each component's soldering point is separated by solder-resist.
Recommended land dimensions for a typical chip component land patterns for PCBs.



For re-flow soldering (Unit: mm)

Type	A	B	C
GZ/SZ/PZ/UPZ0603	0.2~0.3	0.2~0.3	0.3~0.35
GZ/GZ-C/SZ/SZ-C/PZ/UPZ/HZ/HPZ/HFZ/HFPZ/EPZ/MZAH1005	0.45~0.55	0.40~0.50	0.45~0.55
GZ/GZ-C/SZ/SZ-C/PZ/UPZ/HZ/HPZ/HFZ/HFPZ/MZAH/MZAS1608	0.6~0.8	0.6~0.8	0.6~0.8
GZ/SZ/PZ/UPZ2012	0.8~1.2	0.8~1.2	0.9~1.6
MZAS/MZPA2016	0.8~1.2	0.8~1.2	1.2~2.0
MZPA2520	1.0~1.4	0.6~1.0	1.8~2.2
GZ/SZ/PZ3216/MZPA3216	1.8~2.5	1.0~1.5	1.2~2.0
MZPA3225	1.9~2.1	1.2~1.5	2.6~2.8
PZ4516	2.8~3.2	1.25~1.75	0.9~1.6
EPZ4030	1.6~2.3	1.8~2.3	3.0~3.4

EMC Components

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