Alchip™-MZFSeries

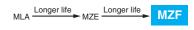
● Endurance: 10,000 hours at 105°C

Low impedance

Nominal capacitance range : 10 to 470μF
 Suitable for long life and low profile products

Solvent resistant type (see PRECAUTIONS AND GUIDELINES)

● RoHS2 Compliant

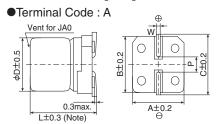




SPECIFICATIONS

| Items | Characteristics | | | | | | | | | | | |
|---|---|---------|-----------|----------|----------|----------|----------|--|--|--|--|--|
| Category Temperature Range | -25 to +105℃ | | | | | | | | | | | |
| Rated Voltage Range | 6.3 to 50V ₆ | | | | | | | | | | | |
| Capacitance Tolerance | ±20%(M) (at 20°C,120Hz) | | | | | | | | | | | |
| Leakage Current | I=0.01CV or 3μA, whichever is greater Where, I: Max. leakage current (μA), C: Nominal capacitance (μF), V: Rated voltage (V) (at 20°C, after 2 minutes) | | | | | | | | | | | |
| Dissipation Factor | Rated voltage (Vdc) | 6.3V | 10V | 16V | 25V | 35V | 50V | | | | | |
| (tan δ) | tan δ (Max.) | 0.32 | 0.28 | 0.26 | 0.16 | 0.14 | 0.14 | (at 20℃,120Hz) | | | | |
| Low Temperature | Rated voltage(Vdc) | 6.3V | 10V | 16V | 25V | 35V | 50V | | | | | |
| Characteristics | Z(-10°C)/Z(+20°C) | 4 | 3 | 2 | 2 | 2 | 2 | | | | | |
| (Max. Impedance Ratio) | | | | | | | | (at 120Hz) | | | | |
| Endurance | The following specification at 105℃. | s shall | be sati | sfied w | hen the | capac | itors ar | e restored to 20°C after the rated voltage is applied for 10,000 hours | | | | |
| Capacitance change ≤±30% of the initial value | | | | | | | | | | | | |
| | D.F. (tan δ) | | | | | | | | | | | |
| | Leakage current | ≦Th | e initial | specif | ied val | ue | | | | | | |
| Shelf Life | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. | | | | | | | | | | | |
| | Capacitance change ≤±30% of the initial value | | | | | | | | | | | |
| | D.F. (tan δ) | ≦300 | 0% of t | he initi | al spec | ified va | alue | | | | | |
| | Leakage current | ≦Th | e initial | specif | ied valı | ue | | | | | | |

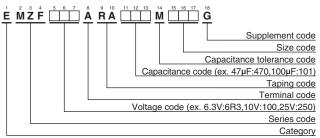
♦DIMENSIONS [mm]



Note: L±0.5 for HA0 and JA0

| Size code | D | L | Α | В | С | W | Р |
|-----------|-----|------|------|------|------|------------|-----|
| E73 | 5 | 7.0 | 5.3 | 5.3 | 5.9 | 0.5 to 0.8 | 1.4 |
| F73 | 6.3 | 7.0 | 6.6 | 6.6 | 7.2 | 0.5 to 0.8 | 1.9 |
| F90 | 6.3 | 8.7 | 6.6 | 6.6 | 7.2 | 0.5 to 0.8 | 1.9 |
| HA0 | 8 | 10.0 | 8.3 | 8.3 | 9.0 | 0.7 to 1.1 | 3.1 |
| .140 | 10 | 10.0 | 10.3 | 10.3 | 11.0 | 0.7 to 1.1 | 45 |

◆PART NUMBERING SYSTEM



Please refer to "Product code guide (surface mount type)"

◆MARKING



Rated voltage symbol

| or lated voltage symbol | | | | | | | | | | |
|-------------------------|-----|----|----|----|----|----|--|--|--|--|
| Rated voltage (Vdc) | 6.3 | 10 | 16 | 25 | 35 | 50 | | | | |
| Symbol | i | Α | С | Е | V | Н | | | | |





STANDARD RATINGS

| WV (V _{dc}) | Cap (µF) | Size code | Impedance | Rated ripple current (mArms/105°C, 100kHz) | Part No. | WV (V _{dc}) | Cap (µF) | | Impedance | Rated ripple current (mArms/105°C, 100kHz) | Part No. |
|--------------------------|-------------|-----------|-----------|---|--------------------|--------------------------|-------------|-----|-----------|---|--------------------|
| | 47 | E73 | 2.2 | 95 | EMZF6R3ARA470ME73G | | 33 | F73 | 1.1 | 140 | EMZF250ARA330MF73G |
| | 100 | F73 | 1.1 | 140 | EMZF6R3ARA101MF73G | | 47 | F73 | 1.1 | 140 | EMZF250ARA470MF73G |
| 6.3 | 220 | F90 | 1.0 | 230 | EMZF6R3ARA221MF90G | 25 | 100 | F90 | 1.0 | 230 | EMZF250ARA101MF90G |
| | 330 | F90 | 1.0 | 230 | EMZF6R3ARA331MF90G | | 220 | HA0 | 0.22 | 600 | EMZF250ARA221MHA0G |
| | 470 | HA0 | 0.22 | 600 | EMZF6R3ARA471MHA0G | | 330 | JA0 | 0.16 | 850 | EMZF250ARA331MJA0G |
| 10 | 33 | E73 | 2.2 | 95 | EMZF100ARA330ME73G | | 10 | E73 | 2.2 | 95 | EMZF350ARA100ME73G |
| 10 | 150 | F73 | 1.1 | 140 | EMZF100ARA151MF73G | | 10 | F73 | 1.1 | 140 | EMZF350ARA100MF73G |
| | 22 | E73 | 2.2 | 95 | EMZF160ARA220ME73G | | 22 | E73 | 2.2 | 95 | EMZF350ARA220ME73G |
| | 47 | F73 | 1.1 | 140 | EMZF160ARA470MF73G | 35 | 22 | F73 | 1.1 | 140 | EMZF350ARA220MF73G |
| | 100 | F73 | 1.1 | 140 | EMZF160ARA101MF73G | 35 | 33 | F90 | 1.0 | 230 | EMZF350ARA330MF90G |
| 16 | 150 | F90 | 1.0 | 230 | EMZF160ARA151MF90G | | 47 | F90 | 1.0 | 230 | EMZF350ARA470MF90G |
| | 220 | F90 | 1.0 | 230 | EMZF160ARA221MF90G | | 100 | HA0 | 0.22 | 600 | EMZF350ARA101MHA0G |
| | 330 | HA0 | 0.22 | 600 | EMZF160ARA331MHA0G | | 220 | JA0 | 0.16 | 850 | EMZF350ARA221MJA0G |
| | 470 | JA0 | 0.16 | 850 | EMZF160ARA471MJA0G | 50 | 47 | HA0 | 0.53 | 350 | EMZF500ARA470MHA0G |
| 25 | 22 | E73 | 2.2 | 95 | EMZF250ARA220ME73G | 30 | 100 | JA0 | 0.35 | 670 | EMZF500ARA101MJA0G |

Production of the products shown in

is scheduled to be discontinued.

◆RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

| Capacitance(µF) Frequency(Hz) | 120 | 1k | 10k | 100k |
|-------------------------------|------|------|------|------|
| 10 to 150 | 0.40 | 0.75 | 0.90 | 1.00 |
| 220 to 470 | 0.50 | 0.85 | 0.94 | 1.00 |

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.



- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
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Part Numbering System
Part Numbering System (Appendix)
Standardization
Available Items by Manufacturing Locations
Environmental Measures
Technical Note
Precautions and Guidelines
Recommended Soldering Conditions
Taping, Lead-preforming and Packaging
Available Terminals for Snap-in and Screw Mount Type