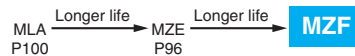


# Alchip™-MZF Series

- Endurance : 10,000 hours at 105°C
- Low impedance
- Rated voltage range : 6.3 to 50V
- Nominal capacitance range : 10 to 470μF
- Suitable for long life and low profile products
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant

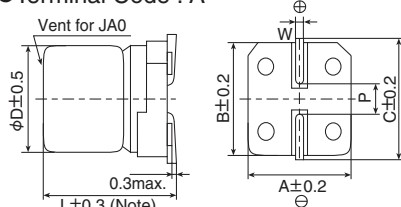


## SPECIFICATIONS

| Items                                                        | Characteristics                                                                                                                                                                                                                                                                       |                                      |      |      |      |      |      |                |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------|------|------|------|------|----------------|
| Category                                                     | -25 to +105℃                                                                                                                                                                                                                                                                          |                                      |      |      |      |      |      |                |
| Temperature Range                                            |                                                                                                                                                                                                                                                                                       |                                      |      |      |      |      |      |                |
| Rated Voltage Range                                          | 6.3 to 50V <sub>dc</sub>                                                                                                                                                                                                                                                              |                                      |      |      |      |      |      |                |
| Capacitance Tolerance                                        | ±20%(M) (at 20℃,120Hz)                                                                                                                                                                                                                                                                |                                      |      |      |      |      |      |                |
| Leakage Current                                              | I=0.01CV or 3μA, whichever is greater<br>Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20℃, after 2 minutes)                                                                                                                          |                                      |      |      |      |      |      |                |
| Dissipation Factor<br>(tan δ)                                | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                                                      | 6.3V                                 | 10V  | 16V  | 25V  | 35V  | 50V  | (at 20℃,120Hz) |
|                                                              | tan δ (Max.)                                                                                                                                                                                                                                                                          | 0.32                                 | 0.28 | 0.26 | 0.16 | 0.14 | 0.14 |                |
| Low Temperature<br>Characteristics<br>(Max. Impedance Ratio) | Rated voltage(V <sub>dc</sub> )                                                                                                                                                                                                                                                       | 6.3V                                 | 10V  | 16V  | 25V  | 35V  | 50V  | (at 120Hz)     |
|                                                              | Z(-10℃)/Z(+20℃)                                                                                                                                                                                                                                                                       | 4                                    | 3    | 2    | 2    | 2    | 2    |                |
| Endurance                                                    | The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 10,000 hours at 105℃.                                                                                                                                  |                                      |      |      |      |      |      |                |
|                                                              | Capacitance change                                                                                                                                                                                                                                                                    | ≤ ±30% of the initial value          |      |      |      |      |      |                |
|                                                              | D.F. (tan δ)                                                                                                                                                                                                                                                                          | ≤300% of the initial specified value |      |      |      |      |      |                |
|                                                              | Leakage current                                                                                                                                                                                                                                                                       | ≤The initial specified value         |      |      |      |      |      |                |
| Shelf Life                                                   | The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ 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% of the initial specified value |      |      |      |      |      |                |
|                                                              | Leakage current                                                                                                                                                                                                                                                                       | ≤The initial specified value         |      |      |      |      |      |                |

## DIMENSIONS [mm]

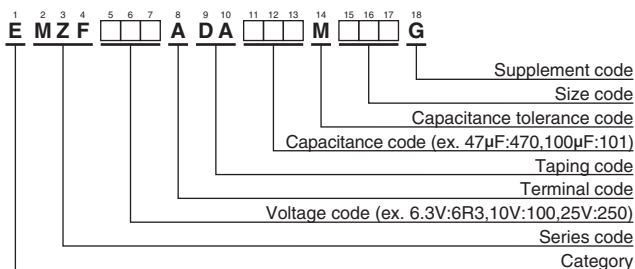
### Terminal Code : A



Note : L±0.5 for HA0 and JA0

| Size code | D   | L    | A    | B    | C    | W          | P   |
|-----------|-----|------|------|------|------|------------|-----|
| 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 |
| JA0       | 10  | 10.0 | 10.3 | 10.3 | 11.0 | 0.7 to 1.1 | 4.5 |

## PART NUMBERING SYSTEM



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

## MARKING

EX) 16V47μF



### Rated voltage symbol

| Rated voltage (V <sub>dc</sub> ) | 6.3 | 10 | 16 | 25 | 35 | 50 |
|----------------------------------|-----|----|----|----|----|----|
| Symbol                           | j   | A  | C  | E  | V  | H  |

◆STANDARD RATINGS

| WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Size code | Impedance<br>(Ω max./20°C,<br>100kHz) | Rated ripple<br>current<br>(mA <sub>rms</sub> /105°C,<br>100kHz) | Part No.           | WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Size code | Impedance<br>(Ω max./20°C,<br>100kHz) | Rated ripple<br>current<br>(mA <sub>rms</sub> /105°C,<br>100kHz) | Part No.           |
|--------------------------|-------------|-----------|---------------------------------------|------------------------------------------------------------------|--------------------|--------------------------|-------------|-----------|---------------------------------------|------------------------------------------------------------------|--------------------|
| 6.3                      | 47          | E73       | 2.2                                   | 95                                                               | EMZF6R3ADA470ME73G | 25                       | 33          | F73       | 1.1                                   | 140                                                              | EMZF250ADA330MF73G |
|                          | 100         | F73       | 1.1                                   | 140                                                              | EMZF6R3ADA101MF73G |                          | 47          | F73       | 1.1                                   | 140                                                              | EMZF250ADA470MF73G |
|                          | 220         | F90       | 1.0                                   | 230                                                              | EMZF6R3ADA221MF90G |                          | 100         | F90       | 1.0                                   | 230                                                              | EMZF250ADA101MF90G |
|                          | 330         | F90       | 1.0                                   | 230                                                              | EMZF6R3ADA331MF90G |                          | 220         | HA0       | 0.22                                  | 600                                                              | EMZF250ADA221MHA0G |
| 10                       | 470         | HA0       | 0.22                                  | 600                                                              | EMZF6R3ADA471MHA0G | 35                       | 330         | JA0       | 0.16                                  | 850                                                              | EMZF250ADA331MJA0G |
|                          | 33          | E73       | 2.2                                   | 95                                                               | EMZF100ADA330ME73G |                          | 10          | E73       | 2.2                                   | 95                                                               | EMZF350ADA100ME73G |
|                          | 150         | F73       | 1.1                                   | 140                                                              | EMZF100ADA151MF73G |                          | 10          | F73       | 1.1                                   | 140                                                              | EMZF350ADA100MF73G |
|                          | 22          | E73       | 2.2                                   | 95                                                               | EMZF160ADA220ME73G |                          | 22          | E73       | 2.2                                   | 95                                                               | EMZF350ADA220ME73G |
| 16                       | 47          | F73       | 1.1                                   | 140                                                              | EMZF160ADA470MF73G |                          | 22          | F73       | 1.1                                   | 140                                                              | EMZF350ADA220MF73G |
|                          | 100         | F73       | 1.1                                   | 140                                                              | EMZF160ADA101MF73G |                          | 33          | F90       | 1.0                                   | 230                                                              | EMZF350ADA330MF90G |
|                          | 150         | F90       | 1.0                                   | 230                                                              | EMZF160ADA151MF90G |                          | 47          | F90       | 1.0                                   | 230                                                              | EMZF350ADA470MF90G |
|                          | 220         | F90       | 1.0                                   | 230                                                              | EMZF160ADA221MF90G | 50                       | 100         | HA0       | 0.22                                  | 600                                                              | EMZF350ADA101MHA0G |
| 25                       | 330         | HA0       | 0.22                                  | 600                                                              | EMZF160ADA331MHA0G |                          | 220         | JA0       | 0.16                                  | 850                                                              | EMZF350ADA221MJA0G |
|                          | 470         | JA0       | 0.16                                  | 850                                                              | EMZF160ADA471MJA0G |                          | 47          | HA0       | 0.53                                  | 350                                                              | EMZF500ADA470MHA0G |
|                          | 22          | E73       | 2.2                                   | 95                                                               | EMZF250ADA220ME73G |                          | 100         | JA0       | 0.35                                  | 670                                                              | EMZF500ADA101MJA0G |

◆RATED RIPLE 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 endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9