

# Alchip™-MZJ Series

- Lower ESR, 2,000 hours at 105°C
- Rated voltage range : 6.3 to 35V
- Nominal capacitance range : 10 to 1,800μF
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- Vibration resistant structure
- RoHS Compliant

MZJ

↑ Lower ESR  
MZA P74



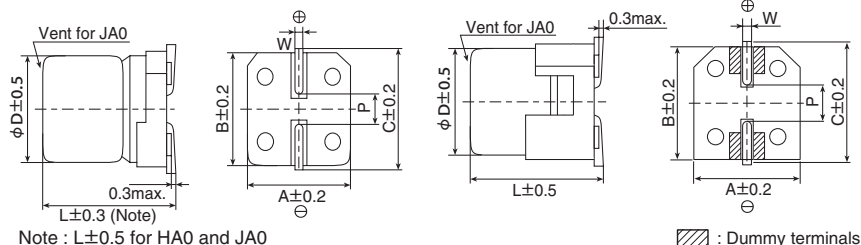
## ◆ SPECIFICATIONS

| Items                                                  | Characteristics                                                                                                                                                                                                                                                                       |                                      |      |      |      |      |                 |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------|------|------|------|-----------------|
| Category Temperature Range                             | -55 to +105℃                                                                                                                                                                                                                                                                          |                                      |      |      |      |      |                 |
| Rated Voltage Range                                    | 6.3 to 35V <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 (tanδ)                              | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                                                      | 6.3V                                 | 10V  | 16V  | 25V  | 35V  | (at 20℃, 120Hz) |
|                                                        | tanδ(Max.)                                                                                                                                                                                                                                                                            | 0.26                                 | 0.19 | 0.16 | 0.14 | 0.12 |                 |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                                                      | 6.3V                                 | 10V  | 16V  | 25V  | 35V  | (at 120Hz)      |
|                                                        | Z(-25℃)/Z(+20℃)                                                                                                                                                                                                                                                                       | 2                                    | 2    | 2    | 2    | 2    |                 |
|                                                        | Z(-40℃)/Z(+20℃)                                                                                                                                                                                                                                                                       | 3                                    | 3    | 3    | 3    | 3    |                 |
|                                                        | Z(-55℃)/Z(+20℃)                                                                                                                                                                                                                                                                       | 4                                    | 4    | 4    | 3    | 3    |                 |
| Endurance                                              | The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 2,000 hours at 105℃.                                                                                                                                   |                                      |      |      |      |      |                 |
|                                                        | Capacitance change                                                                                                                                                                                                                                                                    | ≤ ±30% of the initial value          |      |      |      |      |                 |
|                                                        | D.F. (tanδ)                                                                                                                                                                                                                                                                           | ≤200% 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. (tanδ)                                                                                                                                                                                                                                                                           | ≤200% of the initial specified value |      |      |      |      |                 |
|                                                        | Leakage current                                                                                                                                                                                                                                                                       | ≤The initial specified value         |      |      |      |      |                 |
| Surge Voltage Test                                     | The capacitors shall be subjected to 1,000 cycles each consisting of charging with the specified surge voltage for 30±5 seconds through a protective resistor (as required for RC=0.1±0.05sec) and open-circuiting for 5.5 minutes at a room temperature of 15 to 35℃.                |                                      |      |      |      |      |                 |
|                                                        | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                                                      | 6.3V                                 | 10V  | 16V  | 25V  | 35V  |                 |
|                                                        | Surge voltage (V <sub>dc</sub> )                                                                                                                                                                                                                                                      | 7.2V                                 | 12V  | 18V  | 29V  | 40V  |                 |
|                                                        |                                                                                                                                                                                                                                                                                       |                                      |      |      |      |      |                 |
|                                                        | Appearance                                                                                                                                                                                                                                                                            | No significant damage                |      |      |      |      |                 |
|                                                        | Capacitance change                                                                                                                                                                                                                                                                    | ≤ ±20% of the initial value          |      |      |      |      |                 |
|                                                        | D.F. (tanδ)                                                                                                                                                                                                                                                                           | ≤200% of the initial specified value |      |      |      |      |                 |
|                                                        | Leakage current                                                                                                                                                                                                                                                                       | ≤The initial specified value         |      |      |      |      |                 |
|                                                        | (Caution)                                                                                                                                                                                                                                                                             |                                      |      |      |      |      |                 |
|                                                        | Surge Voltage Test intends to evaluate capacitors in durability of an exceptional excessive voltage under specific conditions.It does not imply long-term use at all.                                                                                                                 |                                      |      |      |      |      |                 |

### ◆ DIMENSIONS [mm]

- Terminal Code : A
- Size code : D61 to JA0

- Terminal Code : G(Vibration resistant structure)
  - Size code : HA0 and JA0
- Size code



| Size code | D   | L    | A    | B    | C    | W          | P   |
|-----------|-----|------|------|------|------|------------|-----|
| D61       | 4   | 5.8  | 4.3  | 4.3  | 5.1  | 0.5 to 0.8 | 1.0 |
| E61       | 5   | 5.8  | 5.3  | 5.3  | 5.9  | 0.5 to 0.8 | 1.4 |
| F61       | 6.3 | 5.8  | 6.6  | 6.6  | 7.2  | 0.5 to 0.8 | 1.9 |
| F80       | 6.3 | 7.7  | 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 |

## ◆ MARKING

EX) 35V10 $\mu$ F



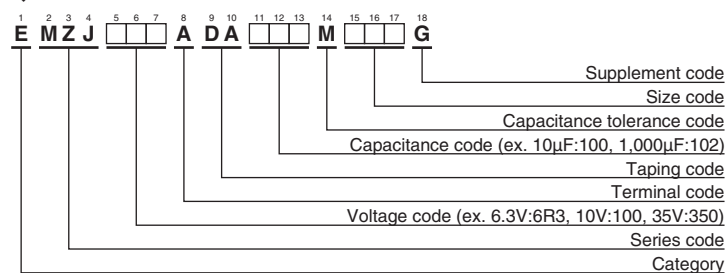
- Rated voltage symbol

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

Applying voltage over the rated voltages causes the capacitors to have short lifetime. Besides, applying voltage over the specified surge voltages may cause to have short circuit failure. A protection circuit should be used if applied voltage will exceed the rated voltages.

Alchip™-MZJ Series

◆PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

| WV(Vdc) | Cap(μF) | Size code | tan δ | ESR<br>(Ω max/20°C, 100kHz) | Rated ripple current<br>(mA rms/105°C, 100kHz) | Part No.           |
|---------|---------|-----------|-------|-----------------------------|------------------------------------------------|--------------------|
| 6.3     | 47      | D61       | 0.26  | 0.85                        | 160                                            | EMZJ6R3ADA470MD61G |
|         | 100     | E61       | 0.26  | 0.36                        | 240                                            | EMZJ6R3ADA101ME61G |
|         | 220     | F61       | 0.26  | 0.26                        | 300                                            | EMZJ6R3ADA221MF61G |
|         | 330     | F80       | 0.26  | 0.16                        | 600                                            | EMZJ6R3ADA331MF80G |
|         | 1,000   | HA0       | 0.26  | 0.08                        | 850                                            | EMZJ6R3ADA102MHA0G |
|         | 1,500   | JA0       | 0.26  | 0.06                        | 1,190                                          | EMZJ6R3ADA152MJA0G |
|         | 1,800   | JA0       | 0.26  | 0.06                        | 1,190                                          | EMZJ6R3ADA182MJA0G |
| 10      | 33      | D61       | 0.19  | 0.85                        | 160                                            | EMZJ100ADA330MD61G |
|         | 150     | F61       | 0.19  | 0.26                        | 300                                            | EMZJ100ADA151MF61G |
|         | 680     | HA0       | 0.19  | 0.08                        | 850                                            | EMZJ100ADA681MHA0G |
|         | 1,000   | JA0       | 0.19  | 0.06                        | 1,190                                          | EMZJ100ADA102MJA0G |
|         | 1,200   | JA0       | 0.19  | 0.06                        | 1,190                                          | EMZJ100ADA122MJA0G |
| 16      | 22      | D61       | 0.16  | 0.85                        | 160                                            | EMZJ160ADA220MD61G |
|         | 47      | E61       | 0.16  | 0.36                        | 240                                            | EMZJ160ADA470ME61G |
|         | 100     | F61       | 0.16  | 0.26                        | 300                                            | EMZJ160ADA101MF61G |
|         | 150     | F80       | 0.16  | 0.16                        | 600                                            | EMZJ160ADA151MF80G |
|         | 220     | F80       | 0.16  | 0.16                        | 600                                            | EMZJ160ADA221MF80G |
|         | 470     | HA0       | 0.16  | 0.08                        | 850                                            | EMZJ160ADA471MHA0G |
|         | 680     | JA0       | 0.16  | 0.06                        | 1,190                                          | EMZJ160ADA681MJA0G |
|         | 820     | JA0       | 0.16  | 0.06                        | 1,190                                          | EMZJ160ADA821MJA0G |
| 25      | 10      | D61       | 0.14  | 0.85                        | 160                                            | EMZJ250ADA100MD61G |
|         | 22      | E61       | 0.14  | 0.36                        | 240                                            | EMZJ250ADA220ME61G |
|         | 33      | E61       | 0.14  | 0.36                        | 240                                            | EMZJ250ADA330ME61G |
|         | 33      | F61       | 0.14  | 0.26                        | 300                                            | EMZJ250ADA330MF61G |
|         | 47      | F61       | 0.14  | 0.26                        | 300                                            | EMZJ250ADA470MF61G |
|         | 68      | F61       | 0.14  | 0.26                        | 300                                            | EMZJ250ADA680MF61G |
|         | 100     | F80       | 0.14  | 0.16                        | 600                                            | EMZJ250ADA101MF80G |
|         | 330     | HA0       | 0.14  | 0.08                        | 850                                            | EMZJ250ADA331MHA0G |
|         | 470     | JA0       | 0.14  | 0.06                        | 1,190                                          | EMZJ250ADA471MJA0G |
|         | 560     | JA0       | 0.14  | 0.06                        | 1,190                                          | EMZJ250ADA561MJA0G |
| 35      | 10      | D61       | 0.12  | 0.85                        | 160                                            | EMZJ350ADA100MD61G |
|         | 22      | E61       | 0.12  | 0.36                        | 240                                            | EMZJ350ADA220ME61G |
|         | 33      | F61       | 0.12  | 0.26                        | 300                                            | EMZJ350ADA330MF61G |
|         | 47      | F61       | 0.12  | 0.26                        | 300                                            | EMZJ350ADA470MF61G |
|         | 68      | F61       | 0.12  | 0.26                        | 300                                            | EMZJ350ADA680MF61G |
|         | 100     | F80       | 0.12  | 0.16                        | 600                                            | EMZJ350ADA101MF80G |
|         | 100     | HA0       | 0.12  | 0.08                        | 850                                            | EMZJ350ADA101MHA0G |
|         | 150     | HA0       | 0.12  | 0.08                        | 850                                            | EMZJ350ADA151MHA0G |
|         | 220     | HA0       | 0.12  | 0.08                        | 850                                            | EMZJ350ADA221MHA0G |
|         | 330     | JA0       | 0.12  | 0.06                        | 1,190                                          | EMZJ350ADA331MJA0G |
|         | 390     | JA0       | 0.12  | 0.06                        | 1,190                                          | EMZJ350ADA391MJA0G |

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

| Frequency(Hz)   | 120  | 1k   | 10k  | 100k |
|-----------------|------|------|------|------|
| Capacitance(μF) |      |      |      |      |
| 10 to 150       | 0.40 | 0.75 | 0.90 | 1.00 |
| 220 to 560      | 0.50 | 0.85 | 0.94 | 1.00 |
| 680 to 1,800    | 0.60 | 0.87 | 0.95 | 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.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.