

Alchip™-MVL Series

MVL

Longer life

MVJ P119



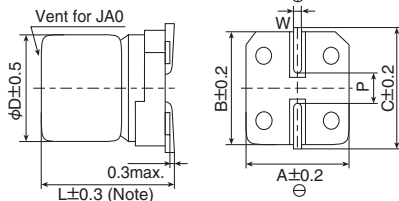
- Endurance : 3,000 to 5,000 hours at 105°C
- Suitable for applications requiring long life such as continuously operating equipment, industrial applications, etc
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant

◆ SPECIFICATIONS

| Items | Characteristics | | | | | | |
|--|---|---|------|------|------|------|------|
| Category Temperature Range | -40 to +105°C | | | | | | |
| Rated Voltage Range | 6.3 to 50V _{dc} | | | | | | |
| Capacitance Tolerance | ±20%(M) (at 20°C,120Hz) | | | | | | |
| Leakage Current | I=0.03CV or 4μA, 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 (tan δ) | Rated voltage (V _{dc}) | 6.3V | 10V | 16V | 25V | 35V | 50V |
| | Max. tan δ | 0.28 | 0.24 | 0.20 | 0.16 | 0.13 | 0.12 |
| Low Temperature Characteristics (Max. impedance Ratio) | Rated voltage(V _{dc}) | 6.3V | 10V | 16V | 25V | 35V | 50V |
| | Z(-25°C)/Z(+20°C) | 4 | 3 | 2 | 2 | 2 | 2 |
| | Z(-40°C)/Z(+20°C) | 10 | 7 | 5 | 3 | 3 | 3 |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for specified time at 105°C. | | | | | | |
| | Time | D60 to F80 : 3,000 hours HA0 & JA0 : 5,000 hours | | | | | |
| | 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°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% of the initial specified value | | | | | |
| | Leakage current | ≤The initial specified value | | | | | |

◆ DIMENSIONS [mm]

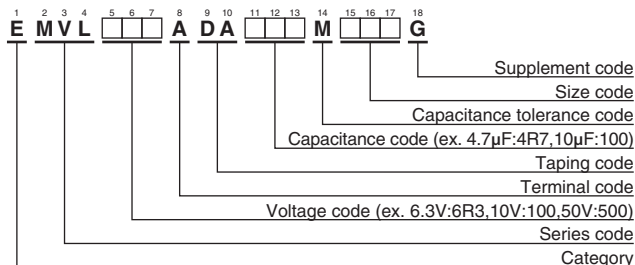
● Terminal Code : A



Note : L±0.5 for HA0 and JA0

| Size code | D | L | A | B | C | W | P |
|-----------|-----|------|------|------|------|------------|-----|
| D60 | 4 | 5.7 | 4.3 | 4.3 | 5.1 | 0.5 to 0.8 | 1.0 |
| E60 | 5 | 5.7 | 5.3 | 5.3 | 5.9 | 0.5 to 0.8 | 1.4 |
| F60 | 6.3 | 5.7 | 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 |

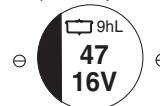
◆ PART NUMBERING SYSTEM



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

◆ MARKING

EX) 16V47μF



◆STANDARD RATINGS

| WV (V _{dc}) | Cap (μF) | Size code | tan δ | Rated ripple current (mA _{rms} /105°C, 120Hz) | Part No. | WV (V _{dc}) | Cap (μF) | Size code | tan δ | Rated ripple current (mA _{rms} /105°C, 120Hz) | Part No. |
|-----------------------|----------|-----------|-------|--|--------------------|-----------------------|----------|-----------|-------|--|--------------------|
| 6.3 | 22 | D60 | 0.28 | 22 | EMVL6R3ADA220MD60G | 35 | 4.7 | D60 | 0.13 | 15 | EMVL350ADA4R7MD60G |
| | 47 | E60 | 0.28 | 36 | EMVL6R3ADA470ME60G | | 10 | E60 | 0.13 | 25 | EMVL350ADA100ME60G |
| | 100 | F60 | 0.28 | 60 | EMVL6R3ADA101MF60G | | 22 | F60 | 0.13 | 42 | EMVL350ADA220MF60G |
| | 220 | F80 | 0.28 | 101 | EMVL6R3ADA221MF80G | | 33 | F80 | 0.13 | 57 | EMVL350ADA330MF80G |
| | 330 | HA0 | 0.28 | 160 | EMVL6R3ADA331MHA0G | | 220 | JA0 | 0.13 | 216 | EMVL350ADA221MJA0G |
| 10 | 1,000 | JA0 | 0.28 | 313 | EMVL6R3ADA102MJA0G | 50 | 1.0 | D60 | 0.12 | 6.2 | EMVL500ADA1R0MD60G |
| | 33 | E60 | 0.24 | 35 | EMVL100ADA330ME60G | | 2.2 | D60 | 0.12 | 11 | EMVL500ADA2R2MD60G |
| 220 | HA0 | 0.24 | 141 | EMVL100ADA221MHA0G | 3.3 | | D60 | 0.12 | 14 | EMVL500ADA3R3MD60G | |
| 16 | 10 | D60 | 0.20 | 18 | EMVL160ADA100MD60G | | 4.7 | E60 | 0.12 | 19 | EMVL500ADA4R7ME60G |
| | 22 | E60 | 0.20 | 30 | EMVL160ADA220ME60G | | 10 | F60 | 0.12 | 30 | EMVL500ADA100MF60G |
| | 47 | F60 | 0.20 | 50 | EMVL160ADA470MF60G | | 22 | F80 | 0.12 | 49 | EMVL500ADA220MF80G |
| | 100 | F80 | 0.20 | 81 | EMVL160ADA101MF80G | | 33 | HA0 | 0.12 | 77 | EMVL500ADA330MHA0G |
| 25 | 470 | JA0 | 0.20 | 254 | EMVL160ADA471MJA0G | 47 | HA0 | 0.12 | 92 | EMVL500ADA470MHA0G | |
| | 33 | F60 | 0.16 | 48 | EMVL250ADA330MF60G | 100 | JA0 | 0.12 | 151 | EMVL500ADA101MJA0G | |
| | 47 | F80 | 0.16 | 63 | EMVL250ADA470MF80G | | | | | | |
| | 100 | HA0 | 0.16 | 116 | EMVL250ADA101MHA0G | | | | | | |
| | 330 | JA0 | 0.16 | 238 | EMVL250ADA331MJA0G | | | | | | |

◆RATED RIPPLE CURRENT MULTIPLIERS

⊙Frequency Multipliers

| Capacitance(μF) | Frequency(Hz) | | | |
|-----------------|---------------|------|------|------|
| | 120 | 1k | 10k | 100k |
| 1.0 | 1.00 | 1.50 | 1.75 | 1.80 |
| 2.2 to 10 | 1.00 | 1.30 | 1.40 | 1.50 |
| 22 to 1,000 | 1.00 | 1.05 | 1.08 | 1.08 |

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.