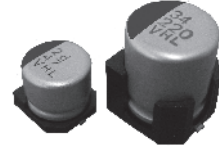


Alchip™-MHL Series Upgrade!

- Downsized and Longer life from current MVH series
- Endurance : 2,000 to 4,000 hours at 125°C
- Rated voltage range : 10 to 35V. Nominal capacitance range : 47 to 680μF
- For automobile modules and other high temperature applications
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- Vibration resistant structure
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

MHL
↑
Downsized
Longer life
MVH

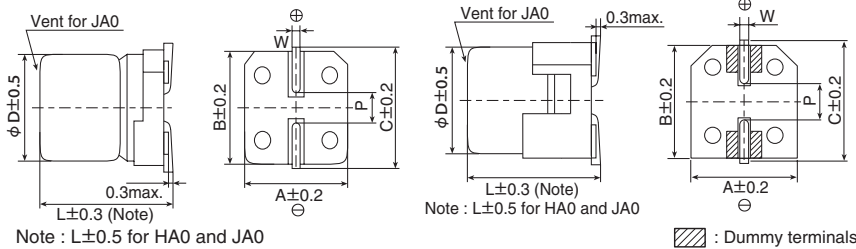


◆ SPECIFICATIONS

| Items | Characteristics | | | | |
|---|---|--|------|------|------|
| Category | -40 to +125°C | | | | |
| Temperature Range | | | | | |
| Rated Voltage Range | 10 to 35V _{dc} | | | | |
| Capacitance Tolerance | ±20%(M) (at 20°C, 120Hz) | | | | |
| Leakage Current | I=0.01CV 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}) | 10V | 16V | 25V | 35V |
| | tan δ (Max.) | 0.24 | 0.20 | 0.16 | 0.14 |
| | | (at 20°C, 120Hz) | | | |
| Low Temperature Characteristics (Max. impedance Ratio) | Rated voltage(V _{dc}) | 10V | 16V | 25V | 35V |
| | Z(-25°C)/Z(+20°C) | 3 | 2 | 2 | 2 |
| | Z(-40°C)/Z(+20°C) | 6 | 4 | 4 | 3 |
| | | (at 120Hz) | | | |
| 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 125°C. | | | | |
| | Time | F61 & F80 : 2,000 hours HA0 & JA0 : 4,000 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 125°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 | | | |

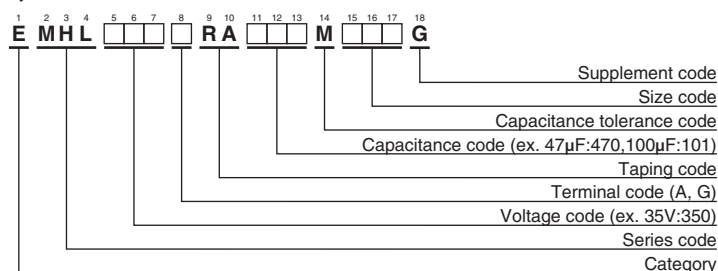
◆ DIMENSIONS [mm]

- Terminal Code : A
- Size code : F61 to JA0
- Terminal Code : G(Vibration resistant structure)
- Size code : F61 to JA0



| Size code | φD | L | A | B | C | W | P |
|-----------|-----|------|------|------|------|------------|-----|
| 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 |

◆ PART NUMBERING SYSTEM



◆ MARKING

EX) 35V47μF



- Rated voltage symbol

| Rated voltage (V _{dc}) | Symbol |
|----------------------------------|--------|
| 10 | A |
| 16 | C |
| 25 | E |
| 35 | V |

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



SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

High heat resistance, 125°C

Alchip™-MHL Series Upgrade!

◆STANDARD RATINGS

| WV (V _{dc}) | Cap (μF) | Size code | ESR (Ω max./100kHz) | | Rated ripple current (mA _{rms} /125°C, 100kHz) | Part No. |
|--------------------------|-------------|-----------|------------------------|-------|--|----------------------|
| | | | 20°C | -40°C | | |
| 10 | 100 | F61 | 1.2 | 22 | 110 | EMHL100 □ RA101MF61G |
| | 220 | F80 | 0.60 | 12 | 220 | EMHL100 □ RA221MF80G |
| | 330 | HA0 | 0.30 | 5.5 | 296 | EMHL100 □ RA331MHA0G |
| | 470 | HA0 | 0.30 | 5.5 | 296 | EMHL100 □ RA471MHA0G |
| | 680 | JA0 | 0.20 | 3.6 | 440 | EMHL100 □ RA681MJA0G |
| 16 | 47 | F61 | 1.2 | 22 | 110 | EMHL160 □ RA470MF61G |
| | 100 | F61 | 1.2 | 22 | 110 | EMHL160 □ RA101MF61G |
| | 220 | F80 | 0.60 | 12 | 220 | EMHL160 □ RA221MF80G |
| | 330 | HA0 | 0.30 | 5.5 | 296 | EMHL160 □ RA331MHA0G |
| | 470 | JA0 | 0.20 | 3.6 | 440 | EMHL160 □ RA471MJA0G |
| | 680 | JA0 | 0.20 | 3.6 | 440 | EMHL160 □ RA681MJA0G |
| 25 | 47 | F61 | 1.2 | 22 | 110 | EMHL250 □ RA470MF61G |
| | 100 | F80 | 0.60 | 12 | 220 | EMHL250 □ RA101MF80G |
| | 220 | HA0 | 0.30 | 5.5 | 296 | EMHL250 □ RA221MHA0G |
| | 330 | JA0 | 0.20 | 3.6 | 440 | EMHL250 □ RA331MJA0G |
| 35 | 47 | F61 | 1.2 | 22 | 110 | EMHL350 □ RA470MF61G |
| | 100 | F80 | 0.60 | 12 | 220 | EMHL350 □ RA101MF80G |
| | 220 | HA0 | 0.30 | 5.5 | 296 | EMHL350 □ RA221MHA0G |
| | 330 | JA0 | 0.20 | 3.6 | 440 | EMHL350 □ RA331MJA0G |

□ : Enter the appropriate terminal code.

◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

| Capacitance(μF) | Frequency(Hz) | | | |
|-----------------|---------------|------|------|------|
| | 120 | 1k | 10k | 100k |
| 47 to 680 | 0.93 | 0.97 | 1.00 | 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.

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