

Alchip™-MVE Series

- Rated voltage range : 6.3 to 450V, capacitance range : 1.0 to 6,800μF
- Endurance : 1,000 to 2,000 hours at 105°C
- Case size range : φ 4×5.2L to φ 18×21.5L
- Solvent resistant type except 100 to 450V_{dc} (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant

MVE → MVL P107
Longer life → MVJ P109



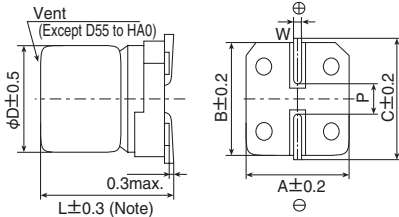
◆ SPECIFICATIONS

| Items | Characteristics | | | | | | | | | | | | |
|---|---|---|-----|-----|-----|-----|-----|--------------------------------------|------|-------------|-------------|---|--|
| Category Temperature Range | -40 to +105°C | | | | | | | | | | | | |
| Rated Voltage Range | 6.3 to 450V _{dc} | | | | | | | | | | | | |
| Capacitance Tolerance | ±20%(M) (at 20°C, 120Hz) | | | | | | | | | | | | |
| Leakage Current | Rated voltage (V _{dc}) | 6.3 to 100V | | | | | | 160 to 450V | | | | | |
| | D55 to JA0 | I=0.01CV or 3μA, whichever is greater (2 minutes) | | | | | | — | | | | | |
| | KE0 to MN0 | I=0.03CV or 4μA, whichever is greater (1 minute) | | | | | | I=0.04CV+100μA (1 minute) | | | | | |
| | Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C) | | | | | | | | | | | | |
| Dissipation Factor (tan δ) | See STANDARD RATINGS (at 20°C, 120Hz) | | | | | | | | | | | | |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V _{dc}) | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V | 100V | 160 to 250V | 400 to 450V | | |
| | D55 to JA0 | Z(-25°C)/Z(+20°C) | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | — | — | |
| | | Z(-40°C)/Z(+20°C) | 12 | 8 | 6 | 4 | 3 | 3 | 3 | 4 | — | — | |
| | KE0 to MN0 | Z(-25°C)/Z(+20°C) | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 6 | |
| Z(-40°C)/Z(+20°C) | | 10 | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 6 | 10 | | |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for the specified period of time at 105°C. | | | | | | | | | | | | |
| | Size code | D55 to F80 | | | | | | HA0 to MN0 | | | | | |
| | Time | 1,000 hours | | | | | | 2,000 hours | | | | | |
| | Capacitance change | ≤ ±30% of the initial value | | | | | | ≤ ±20% of the initial value | | | | | |
| | D.F. (tan δ) | ≤300% of the initial specified value | | | | | | ≤200% of the initial specified value | | | | | |
| | Leakage current | ≤The initial specified value | | | | | | ≤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 (500 hours for B55 to F80 size) 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. | | | | | | | | | | | | |
| | Size code | D55 to F80 | | | | | | HA0 to MN0 | | | | | |
| | Capacitance change | ≤ ±25% of the initial value | | | | | | ≤ ±20% of the initial value | | | | | |
| | D.F. (tan δ) | ≤200% of the initial specified value | | | | | | ≤200% of the initial specified value | | | | | |
| | Leakage current | ≤The initial specified value | | | | | | ≤The initial specified value | | | | | |

◆ DIMENSIONS [mm]

● Terminal Code : A

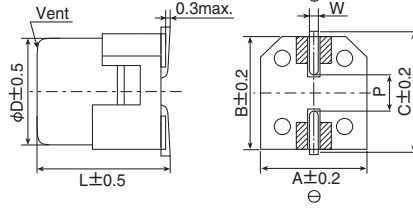
● Size code : D55 to MN0



Note : L±0.5 for HA0 to MN0

● Terminal Code : G (Vibration resistant structure)

● Size code : LH0 to MN0



▨ : Dummy terminals

| Size code | D | L | A | B | C | W | P |
|-----------|------|------|------|------|------|------------|-----|
| D55 | 4 | 5.2 | 4.3 | 4.3 | 5.1 | 0.5 to 0.8 | 1.0 |
| E55 | 5 | 5.2 | 5.3 | 5.3 | 5.9 | 0.5 to 0.8 | 1.4 |
| F55 | 6.3 | 5.2 | 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 |
| KE0 | 12.5 | 13.5 | 13.0 | 13.0 | 13.7 | 1.0 to 1.3 | 4.2 |
| KG5 | 12.5 | 16.0 | 13.0 | 13.0 | 13.7 | 1.0 to 1.3 | 4.2 |
| LH0 | 16 | 16.5 | 17.0 | 17.0 | 18.0 | 1.0 to 1.3 | 6.5 |
| LN0 | 16 | 21.5 | 17.0 | 17.0 | 18.0 | 1.0 to 1.3 | 6.5 |
| MH0 | 18 | 16.5 | 19.0 | 19.0 | 20.0 | 1.0 to 1.3 | 6.5 |
| MN0 | 18 | 21.5 | 19.0 | 19.0 | 20.0 | 1.0 to 1.3 | 6.5 |

◆ MARKING

D55 to JA0

Ex) 16V22μF

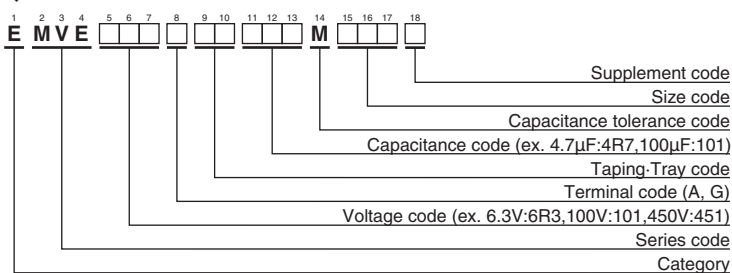


KE0 to MN0

Ex) 25V1,000μF



◆ PART NUMBERING SYSTEM



◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

| Size code | Capacitance(μF) | Frequency(Hz) | | | |
|------------|-----------------|---------------|------|------|------|
| | | 120 | 1k | 10k | 100k |
| D55 to JA0 | 1.0 | 1.00 | 1.50 | 1.75 | 1.80 |
| | 2.2 to 10 | 1.00 | 1.30 | 1.40 | 1.50 |
| | 22 to 1,500 | 1.00 | 1.05 | 1.08 | 1.08 |
| KE0 to MN0 | 3.3 to 4.7 | 1.00 | 1.75 | 2.30 | 2.50 |
| | 10 to 68 | 1.00 | 1.50 | 1.75 | 1.80 |
| | 100 to 1,000 | 1.00 | 1.30 | 1.40 | 1.50 |
| | 2,200 to 6,800 | 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.

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

Alchip™-MVE Series

◆STANDARD RATINGS

 is not solvent resistant.

| 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 | D55 | 0.30 | 22 | EMVE6R3ADA220MD55G | 35 | 330 | JA0 | 0.16 | 450 | EMVE350ADA331MJA0G | |
| | 33 | E55 | 0.30 | 34 | EMVE6R3ADA330ME55G | | 470 | KE0 | 0.22 | 520 | EMVE350ARA471MKE0S | |
| | 47 | E55 | 0.30 | 38 | EMVE6R3ADA470ME55G | | 470 | LH0 | 0.22 | 650 | EMVE350□DA471MLH0S | |
| | 100 | F55 | 0.30 | 69 | EMVE6R3ADA101MF55G | | 1,000 | LH0 | 0.22 | 750 | EMVE350□DA102MLH0S | |
| | 220 | F80 | 0.45 | 120 | EMVE6R3ADA221MF80G | | 1,000 | MH0 | 0.22 | 1,000 | EMVE350□DA102MMH0S | |
| | 330 | HA0 | 0.40 | 290 | EMVE6R3ADA331MHA0G | | 2,200 | MN0 | 0.24 | 1,450 | EMVE350□DA222MMN0S | |
| | 470 | HA0 | 0.45 | 320 | EMVE6R3ADA471MHA0G | | 50 | 1.0 | D55 | 0.12 | 8.0 | EMVE500ADA1R0MD55G |
| | 680 | HA0 | 0.45 | 340 | EMVE6R3ADA681MHA0G | | | 2.2 | D55 | 0.12 | 12 | EMVE500ADA2R2MD55G |
| | 1,000 | JA0 | 0.40 | 410 | EMVE6R3ADA102MJA0G | | | 3.3 | D55 | 0.12 | 15 | EMVE500ADA3R3MD55G |
| | 1,500 | JA0 | 0.45 | 550 | EMVE6R3ADA152MJA0G | | | 4.7 | E55 | 0.12 | 20 | EMVE500ADA4R7ME55G |
| | 2,200 | KE0 | 0.40 | 680 | EMVE6R3ARA222MKE0S | | | 10 | F55 | 0.12 | 32 | EMVE500ADA100MF55G |
| | 2,200 | LH0 | 0.40 | 840 | EMVE6R3□DA222MLH0S | | | 33 | F80 | 0.14 | 65 | EMVE500ADA330MF80G |
| | 3,300 | KG5 | 0.42 | 850 | EMVE6R3ARA332MKG5S | | | 47 | F80 | 0.14 | 80 | EMVE500ADA470MF80G |
| | 3,300 | MH0 | 0.42 | 1,000 | EMVE6R3□DA332MMH0S | | | 100 | HA0 | 0.14 | 230 | EMVE500ADA101MHA0G |
| 4,700 | LN0 | 0.44 | 1,200 | EMVE6R3□DA472MLN0S | 220 | JA0 | | 0.14 | 375 | EMVE500ADA221MJA0G | | |
| 4,700 | MH0 | 0.44 | 1,200 | EMVE6R3□DA472MMH0S | 330 | KE0 | | 0.18 | 500 | EMVE500ARA331MKE0S | | |
| 6,800 | LN0 | 0.48 | 1,200 | EMVE6R3□DA682MLN0S | 330 | LH0 | | 0.18 | 600 | EMVE500□DA331MLH0S | | |
| 6,800 | MN0 | 0.48 | 1,350 | EMVE6R3□DA682MMN0S | 470 | LH0 | | 0.18 | 700 | EMVE500□DA471MLH0S | | |
| 470 | MH0 | 0.18 | 750 | EMVE500□DA471MMH0S | 470 | MH0 | | 0.18 | 750 | EMVE500□DA471MMH0S | | |
| 1,000 | MN0 | 0.18 | 1,200 | EMVE500□DA102MMN0S | 1,000 | MN0 | | 0.18 | 1,200 | EMVE500□DA102MMN0S | | |
| 10 | 22 | E55 | 0.24 | 30 | EMVE100ADA220ME55G | 63 | 1.0 | D55 | 0.12 | 8.0 | EMVE630ADA1R0MD55G | |
| | 33 | E55 | 0.24 | 34 | EMVE100ADA330ME55G | | 2.2 | D55 | 0.12 | 12 | EMVE630ADA2R2MD55G | |
| | 47 | F55 | 0.24 | 48 | EMVE100ADA470MF55G | | 3.3 | E55 | 0.12 | 17 | EMVE630ADA3R3ME55G | |
| | 100 | F55 | 0.30 | 69 | EMVE100ADA101MF55G | | 4.7 | F55 | 0.12 | 22 | EMVE630ADA4R7MF55G | |
| | 150 | F80 | 0.35 | 100 | EMVE100ADA151MF80G | | 10 | F55 | 0.12 | 32 | EMVE630ADA100MF55G | |
| | 220 | F80 | 0.35 | 120 | EMVE100ADA221MF80G | | 22 | F80 | 0.12 | 58 | EMVE630ADA220MF80G | |
| | 330 | HA0 | 0.35 | 290 | EMVE100ADA331MHA0G | | 33 | HA0 | 0.12 | 140 | EMVE630ADA330MHA0G | |
| | 470 | HA0 | 0.35 | 320 | EMVE100ADA471MHA0G | | 47 | HA0 | 0.12 | 170 | EMVE630ADA470MHA0G | |
| | 1,000 | JA0 | 0.35 | 410 | EMVE100ADA102MJA0G | | 100 | JA0 | 0.12 | 310 | EMVE630ADA101MJA0G | |
| | 2,200 | KG5 | 0.36 | 750 | EMVE100ARA222MKG5S | | 220 | KE0 | 0.14 | 470 | EMVE630ARA221MKE0S | |
| | 2,200 | LH0 | 0.36 | 850 | EMVE100□DA222MLH0S | | 220 | LH0 | 0.14 | 560 | EMVE630□DA221MLH0S | |
| | 3,300 | LH0 | 0.38 | 1,000 | EMVE100□DA332MLH0S | | 330 | LH0 | 0.14 | 700 | EMVE630□DA331MLH0S | |
| | 3,300 | MH0 | 0.38 | 1,100 | EMVE100□DA332MMH0S | | 330 | MH0 | 0.14 | 750 | EMVE630□DA331MMH0S | |
| | 4,700 | LN0 | 0.40 | 1,300 | EMVE100□DA472MLN0S | | 470 | LN0 | 0.14 | 900 | EMVE630□DA471MLN0S | |
| 4,700 | MN0 | 0.40 | 1,350 | EMVE100□DA472MMN0S | 470 | MH0 | 0.14 | 900 | EMVE630□DA471MMH0S | | | |
| 16 | 10 | D55 | 0.20 | 17 | EMVE160ADA100MD55G | 100 | 22 | HA0 | 0.12 | 100 | EMVE101ADA220MHA0G | |
| | 22 | E55 | 0.20 | 30 | EMVE160ADA220ME55G | | 33 | JA0 | 0.12 | 150 | EMVE101ADA330MJA0G | |
| | 33 | F55 | 0.20 | 45 | EMVE160ADA330MF55G | | 47 | KE0 | 0.10 | 250 | EMVE101ARA470MKE0S | |
| | 47 | F55 | 0.20 | 48 | EMVE160ADA470MF55G | | 68 | KE0 | 0.10 | 300 | EMVE101ARA680MKE0S | |
| | 100 | F55 | 0.26 | 69 | EMVE160ADA101MF55G | | 100 | KE0 | 0.10 | 380 | EMVE101ARA101MKE0S | |
| | 150 | F80 | 0.28 | 100 | EMVE160ADA151MF80G | | 100 | LH0 | 0.10 | 450 | EMVE101□DA101MLH0S | |
| | 220 | F80 | 0.28 | 120 | EMVE160ADA221MF80G | | 220 | LN0 | 0.10 | 750 | EMVE101□DA221MLN0S | |
| | 330 | HA0 | 0.28 | 290 | EMVE160ADA331MHA0G | | 220 | MH0 | 0.10 | 750 | EMVE101□DA221MMH0S | |
| | 470 | HA0 | 0.28 | 320 | EMVE160ADA471MHA0G | | 330 | MN0 | 0.10 | 980 | EMVE101□DA331MMN0S | |
| | 680 | JA0 | 0.28 | 470 | EMVE160ADA681MJA0G | | 33 | KE0 | 0.15 | 95 | EMVE161ARA330MKE0S | |
| | 1,000 | KE0 | 0.30 | 550 | EMVE160ARA102MKE0S | | 47 | LH0 | 0.15 | 260 | EMVE161□DA470MLH0S | |
| | 1,000 | LH0 | 0.30 | 650 | EMVE160□DA102MLH0S | | 68 | LN0 | 0.15 | 320 | EMVE161□DA680MLN0S | |
| | 2,200 | LH0 | 0.32 | 950 | EMVE160□DA222MLH0S | | 68 | MH0 | 0.15 | 320 | EMVE161□DA680MMH0S | |
| | 2,200 | MH0 | 0.32 | 1,000 | EMVE160□DA222MMH0S | | 100 | LN0 | 0.15 | 380 | EMVE161□DA101MLN0S | |
| 3,300 | LN0 | 0.34 | 1,200 | EMVE160□DA332MLN0S | 200 | 10 | KE0 | 0.15 | 80 | EMVE201ARA100MKE0S | | |
| 3,300 | MH0 | 0.34 | 1,200 | EMVE160□DA332MMH0S | | 22 | KG5 | 0.15 | 110 | EMVE201ARA220MKG5S | | |
| 10 | E55 | 0.16 | 27 | EMVE250ADA100ME55G | | 33 | LH0 | 0.15 | 220 | EMVE201□DA330MLH0S | | |
| 22 | F55 | 0.16 | 44 | EMVE250ADA220MF55G | | 47 | LN0 | 0.15 | 270 | EMVE201□DA470MLN0S | | |
| 33 | F55 | 0.16 | 50 | EMVE250ADA330MF55G | | 47 | MH0 | 0.15 | 270 | EMVE201□DA470MMH0S | | |
| 47 | F55 | 0.16 | 60 | EMVE250ADA470MF55G | | 68 | MN0 | 0.15 | 330 | EMVE201□DA680MMN0S | | |
| 100 | F80 | 0.18 | 100 | EMVE250ADA101MF80G | | 4.7 | KE0 | 0.15 | 65 | EMVE251ARA4R7MKE0S | | |
| 150 | HA0 | 0.18 | 240 | EMVE250ADA151MHA0G | | 10 | KG5 | 0.15 | 105 | EMVE251ARA100MKG5S | | |
| 220 | HA0 | 0.18 | 320 | EMVE250ADA221MHA0G | | 22 | LH0 | 0.15 | 180 | EMVE251□DA220MLH0S | | |
| 330 | JA0 | 0.16 | 450 | EMVE250ADA331MJA0G | | 33 | LN0 | 0.15 | 230 | EMVE251□DA330MLN0S | | |
| 470 | JA0 | 0.18 | 490 | EMVE250ADA471MJA0G | | 33 | MH0 | 0.15 | 230 | EMVE251□DA330MMH0S | | |
| 1,000 | LH0 | 0.26 | 820 | EMVE250□DA102MLH0S | | 47 | MN0 | 0.15 | 280 | EMVE251□DA470MMN0S | | |
| 1,000 | MH0 | 0.26 | 880 | EMVE250□DA102MMH0S | | 4.7 | KG5 | 0.20 | 50 | EMVE401ARA4R7MKG5S | | |
| 2,200 | LN0 | 0.28 | 1,250 | EMVE250□DA222MLN0S | | 10 | LH0 | 0.20 | 85 | EMVE401□DA100MLH0S | | |
| 2,200 | MN0 | 0.28 | 1,300 | EMVE250□DA222MMN0S | 22 | MN0 | 0.20 | 130 | EMVE401□DA220MMN0S | | | |
| 35 | 4.7 | D55 | 0.14 | 16 | EMVE350ADA4R7MD55G | 400 | 3.3 | KE0 | 0.20 | 40 | EMVE451ARA3R3MKE0S | |
| | 10 | E55 | 0.14 | 27 | EMVE350ADA100ME55G | | 4.7 | KG5 | 0.20 | 50 | EMVE451ARA4R7MKG5S | |
| | 22 | F55 | 0.14 | 44 | EMVE350ADA220MF55G | | 10 | LH0 | 0.20 | 85 | EMVE451□DA100MLH0S | |
| | 47 | F80 | 0.16 | 80 | EMVE350ADA470MF80G | 450 | 22 | MN0 | 0.20 | 130 | EMVE451□DA220MMN0S | |
| | 100 | F80 | 0.16 | 100 | EMVE350ADA101MF80G | | 3.3 | KE0 | 0.20 | 40 | EMVE451ARA3R3MKE0S | |
| | 150 | HA0 | 0.16 | 260 | EMVE350ADA151MHA0G | | 4.7 | KG5 | 0.20 | 50 | EMVE451ARA4R7MKG5S | |
| 220 | JA0 | 0.16 | 375 | EMVE350ADA221MJA0G | 10 | LH0 | 0.20 | 85 | EMVE451□DA100MLH0S | | | |
| 220 | JA0 | 0.16 | 375 | EMVE350ADA221MJA0G | 22 | MN0 | 0.20 | 130 | EMVE451□DA220MMN0S | | | |

 : Enter the appropriate terminal code.