



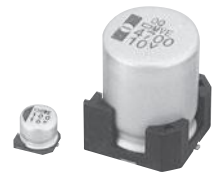
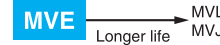
**THE DATASHEET OF
EMVE630ARA101MJA0G**





Alchip™-MVE Series Upgrade!

- Endurance : 1,000 to 2,000 hours at 105°C
- Case size range : $\phi 4 \times 5.2L$ to $\phi 18 \times 21.5L$
- Solvent resistant type except 100 to 450V_{dc} (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

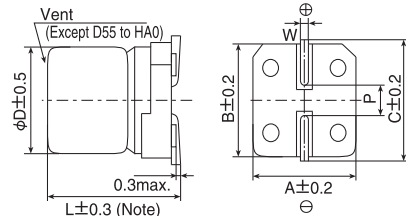


◆ SPECIFICATIONS

| Items | Characteristics | | | | | | | | | | | | | |
|---|---|---|-----|-----|-----|-----|-----|--------------------------------------|------|-------------|-------------|------------|--|--|
| Category | -40 to +105°C | | | | | | | | | | | | | |
| 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 | (at 120Hz) | | |
| 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 | | | | | | |

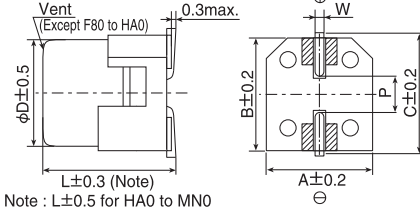
◆ DIMENSIONS [mm]

- Terminal Code : A
- Size code : D55 to MN0



Note : L±0.5 for HA0 to MN0

- Terminal Code : G (Vibration resistant structure)
- Size code : F80 to MN0



Note : L±0.5 for HA0 to MN0

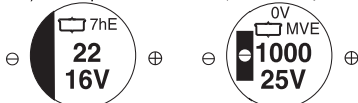
▨ : Dummy terminals

| 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 |

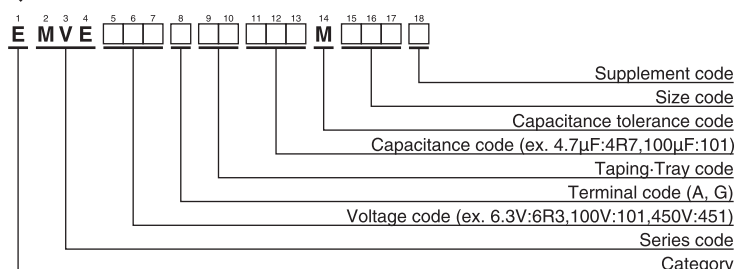
◆ MARKING

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.



Alchip™-MVE Series *Upgrade!*

◆STANDARD RATINGS

□ is not solvent resistant.

| WV (V _{dc}) | Cap (μF) | Size code | tan δ | Rated ripple current (mArms/105°C, 120Hz) | Part No. | WV (V _{dc}) | Cap (μF) | Size code | tan δ | Rated ripple current (mArms/105°C, 120Hz) | Part No. | |
|-----------------------|----------|-----------|-------|---|--------------------|-----------------------|---------------------|-----------|-------|---|---------------------|---------------------|
| 6.3 | 22 | D55 | 0.30 | 22 | EMVE6R3ARA220MD55G | 35 | 330 | JA0 | 0.16 | 450 | EMVE350□RA331MJA0G | |
| | 33 | E55 | 0.30 | 34 | EMVE6R3ARA330ME55G | | 470 | KE0 | 0.22 | 520 | EMVE350□RA471MKE0S | |
| | 47 | E55 | 0.30 | 38 | EMVE6R3ARA470ME55G | | 470 | LH0 | 0.22 | 650 | EMVE350□RA471MLH0S | |
| | 100 | F55 | 0.30 | 69 | EMVE6R3ARA101MF55G | | 1,000 | LH0 | 0.22 | 750 | EMVE350□RA102MLH0S | |
| | 220 | F80 | 0.45 | 120 | EMVE6R3□RA221MF80G | | 1,000 | MH0 | 0.22 | 1,000 | EMVE350□RA102MMH0S | |
| | 330 | HA0 | 0.40 | 290 | EMVE6R3□RA331MHA0G | | 2,200 | MN0 | 0.24 | 1,450 | EMVE350□RA222MMN0S | |
| | 470 | HA0 | 0.45 | 320 | EMVE6R3□RA471MHA0G | | 50 | 1.0 | D55 | 0.12 | 8.0 | EMVE500ARA1R0MD55G |
| | 680 | HA0 | 0.45 | 340 | EMVE6R3□RA681MHA0G | | | 2.2 | D55 | 0.12 | 12 | EMVE500ARA2R2MD55G |
| | 1,000 | JA0 | 0.40 | 410 | EMVE6R3□RA102MJA0G | | | 3.3 | D55 | 0.12 | 15 | EMVE500ARA3R3MD55G |
| | 1,500 | JA0 | 0.45 | 550 | EMVE6R3□RA152MJA0G | | | 4.7 | E55 | 0.12 | 20 | EMVE500ARA4R7ME55G |
| | 2,200 | KE0 | 0.40 | 680 | EMVE6R3□RA222MKE0S | | | 10 | F55 | 0.12 | 32 | EMVE500ARA100MF55G |
| | 2,200 | LH0 | 0.40 | 840 | EMVE6R3□RA222MLH0S | | | 33 | F80 | 0.14 | 65 | EMVE500□RA330MF80G |
| | 3,300 | KG5 | 0.42 | 850 | EMVE6R3□RA332MKG5S | | | 47 | F80 | 0.14 | 80 | EMVE500□RA470MF80G |
| | 3,300 | MH0 | 0.42 | 1,000 | EMVE6R3□RA332MMH0S | | | 100 | HA0 | 0.14 | 230 | EMVE500□RA101MHA0G |
| | 4,700 | LN0 | 0.44 | 1,200 | EMVE6R3□RA472MLN0S | | | 220 | JA0 | 0.14 | 375 | EMVE500□RA221MJA0G |
| 4,700 | MH0 | 0.44 | 1,200 | EMVE6R3□RA472MMH0S | 330 | KE0 | | 0.18 | 500 | EMVE500□RA331MKE0S | | |
| 6,800 | LN0 | 0.48 | 1,200 | EMVE6R3□RA682MLN0S | 330 | LH0 | | 0.18 | 600 | EMVE500□RA331MLH0S | | |
| 6,800 | MN0 | 0.48 | 1,350 | EMVE6R3□RA682MMN0S | 470 | LH0 | | 0.18 | 700 | EMVE500□RA471MLH0S | | |
| 10 | 22 | E55 | 0.24 | 30 | EMVE100ARA220ME55G | 470 | | MH0 | 0.18 | 750 | EMVE500□RA471MMH0S | |
| | 33 | E55 | 0.24 | 34 | EMVE100ARA330ME55G | 1,000 | | MN0 | 0.18 | 1,200 | EMVE500□RA102MMN0S | |
| | 47 | F55 | 0.24 | 48 | EMVE100ARA470MF55G | 63 | | 1.0 | D55 | 0.12 | 8.0 | EMVE630ARA1R0MD55G |
| | 100 | F55 | 0.30 | 69 | EMVE100ARA101MF55G | | 2.2 | D55 | 0.12 | 12 | EMVE630ARA2R2MD55G | |
| | 150 | F80 | 0.35 | 100 | EMVE100□RA151MF80G | | 3.3 | E55 | 0.12 | 17 | EMVE630ARA3R3ME55G | |
| | 220 | F80 | 0.35 | 120 | EMVE100□RA221MF80G | | 4.7 | F55 | 0.12 | 22 | EMVE630ARA4R7MF55G | |
| | 330 | HA0 | 0.35 | 290 | EMVE100□RA331MHA0G | | 10 | F55 | 0.12 | 32 | EMVE630ARA100MF55G | |
| | 470 | HA0 | 0.35 | 320 | EMVE100□RA471MHA0G | | 22 | F80 | 0.12 | 58 | EMVE630□RA220MF80G | |
| | 1,000 | JA0 | 0.35 | 410 | EMVE100□RA102MJA0G | | 33 | HA0 | 0.12 | 140 | EMVE630□RA330MHA0G | |
| | 2,200 | KG5 | 0.36 | 750 | EMVE100□RA222MKG5S | | 47 | HA0 | 0.12 | 170 | EMVE630□RA470MHA0G | |
| | 2,200 | LH0 | 0.36 | 850 | EMVE100□RA222MLH0S | | 100 | JA0 | 0.12 | 310 | EMVE630□RA101MJA0G | |
| | 3,300 | LH0 | 0.38 | 1,000 | EMVE100□RA332MLH0S | | 220 | KE0 | 0.14 | 470 | EMVE630□RA221MKE0S | |
| | 3,300 | MH0 | 0.38 | 1,100 | EMVE100□RA332MMH0S | | 220 | LH0 | 0.14 | 560 | EMVE630□RA221MLH0S | |
| | 4,700 | LN0 | 0.40 | 1,300 | EMVE100□RA472MLN0S | | 330 | LH0 | 0.14 | 700 | EMVE630□RA331MLH0S | |
| | 4,700 | MN0 | 0.40 | 1,350 | EMVE100□RA472MMN0S | | 330 | MH0 | 0.14 | 750 | EMVE630□RA331MMH0S | |
| 16 | 10 | D55 | 0.20 | 17 | EMVE160ARA100MD55G | | 470 | LN0 | 0.14 | 900 | EMVE630□RA471MLN0S | |
| | 22 | E55 | 0.20 | 30 | EMVE160ARA220ME55G | | 470 | MH0 | 0.14 | 900 | EMVE630□RA471MMH0S | |
| | 33 | F55 | 0.20 | 45 | EMVE160ARA330MF55G | 100 | 22 | HA0 | 0.12 | 100 | EMVE101□RA220MHA0G | |
| | 47 | F55 | 0.20 | 48 | EMVE160ARA470MF55G | | 33 | JA0 | 0.12 | 150 | EMVE101□RA330MJA0G | |
| | 100 | F55 | 0.26 | 69 | EMVE160ARA101MF55G | | 47 | KE0 | 0.10 | 250 | EMVE101□RA470MKE0S | |
| | 150 | F80 | 0.28 | 100 | EMVE160□RA151MF80G | | 68 | KE0 | 0.10 | 300 | EMVE101□RA680MKE0S | |
| | 220 | F80 | 0.28 | 120 | EMVE160□RA221MF80G | | 100 | KE0 | 0.10 | 380 | EMVE101□RA101MKE0S | |
| | 330 | HA0 | 0.28 | 290 | EMVE160□RA331MHA0G | | 100 | LH0 | 0.10 | 450 | EMVE101□RA101MLH0S | |
| | 470 | HA0 | 0.28 | 320 | EMVE160□RA471MHA0G | | 220 | LN0 | 0.10 | 750 | EMVE101□RA221MLN0S | |
| | 680 | JA0 | 0.28 | 470 | EMVE160□RA681MJA0G | | 220 | MH0 | 0.10 | 750 | EMVE101□RA221MMH0S | |
| | 1,000 | KE0 | 0.30 | 550 | EMVE160□RA102MKE0S | | 330 | MN0 | 0.10 | 980 | EMVE101□RA331MMN0S | |
| | 1,000 | LH0 | 0.30 | 650 | EMVE160□RA102MLH0S | | 160 | 33 | KE0 | 0.15 | 95 | EMVE161□RA330MKE0S |
| | 2,200 | LH0 | 0.32 | 950 | EMVE160□RA222MLH0S | | | 47 | LH0 | 0.15 | 260 | EMVE161□RA470MLH0S |
| | 2,200 | MH0 | 0.32 | 1,000 | EMVE160□RA222MMH0S | | | 68 | LN0 | 0.15 | 320 | EMVE161□RA680MLN0S |
| | 3,300 | LN0 | 0.34 | 1,200 | EMVE160□RA332MLN0S | | | 68 | MH0 | 0.15 | 320 | EMVE161□RA680MMH0S |
| 3,300 | MH0 | 0.34 | 1,200 | EMVE160□RA332MMH0S | 100 | | | LN0 | 0.15 | 380 | EMVE161□RA101MLN0S | |
| 25 | 10 | E55 | 0.16 | 27 | EMVE250ARA100ME55G | | | 200 | 10 | KE0 | 0.15 | 80 |
| | 22 | F55 | 0.16 | 44 | EMVE250ARA220MF55G | 22 | KG5 | | 0.15 | 110 | EMVE201□RA220MKG5S | |
| | 33 | F55 | 0.16 | 50 | EMVE250ARA330MF55G | 33 | LH0 | | 0.15 | 220 | EMVE201□RA330MLH0S | |
| | 47 | F55 | 0.16 | 60 | EMVE250ARA470MF55G | 47 | LN0 | | 0.15 | 270 | EMVE201□RA470MLN0S | |
| | 100 | F80 | 0.18 | 100 | EMVE250□RA101MF80G | 47 | MH0 | | 0.15 | 270 | EMVE201□RA470MMH0S | |
| | 150 | HA0 | 0.18 | 240 | EMVE250□RA151MHA0G | 68 | MN0 | | 0.15 | 330 | EMVE201□RA680MMN0S | |
| | 220 | HA0 | 0.18 | 320 | EMVE250□RA221MHA0G | 250 | 4.7 | KE0 | 0.15 | 65 | EMVE251□RA47R7MKE0S | |
| | 330 | JA0 | 0.16 | 450 | EMVE250□RA331MJA0G | | 10 | KG5 | 0.15 | 105 | EMVE251□RA100MKG5S | |
| | 470 | JA0 | 0.18 | 490 | EMVE250□RA471MJA0G | | 22 | LH0 | 0.15 | 180 | EMVE251□RA220MLH0S | |
| | 1,000 | LH0 | 0.26 | 820 | EMVE250□RA102MLH0S | | 33 | LN0 | 0.15 | 230 | EMVE251□RA330MLN0S | |
| | 1,000 | MH0 | 0.26 | 880 | EMVE250□RA102MMH0S | | 33 | MH0 | 0.15 | 230 | EMVE251□RA330MMH0S | |
| | 2,200 | LN0 | 0.28 | 1,250 | EMVE250□RA222MLN0S | | 47 | MN0 | 0.15 | 280 | EMVE251□RA470MMN0S | |
| | 2,200 | MN0 | 0.28 | 1,300 | EMVE250□RA222MMN0S | 400 | 4.7 | KG5 | 0.20 | 50 | EMVE401□RA47R7MKG5S | |
| | 35 | 4.7 | D55 | 0.14 | 16 | | EMVE350ARA47R7MD55G | 10 | LH0 | 0.20 | 85 | EMVE401□RA100MLH0S |
| | | 10 | E55 | 0.14 | 27 | | EMVE350ARA100ME55G | 22 | MN0 | 0.20 | 130 | EMVE401□RA220MMN0S |
| 22 | | F55 | 0.14 | 44 | EMVE350ARA220MF55G | | 450 | 3.3 | KE0 | 0.20 | 40 | EMVE451□RA3R3MKE0S |
| 47 | | F80 | 0.16 | 80 | EMVE350□RA470MF80G | | | 4.7 | KG5 | 0.20 | 50 | EMVE451□RA47R7MKG5S |
| 100 | | F80 | 0.16 | 100 | EMVE350□RA101MF80G | | | 10 | LH0 | 0.20 | 85 | EMVE451□RA100MLH0S |
| 150 | | HA0 | 0.16 | 260 | EMVE350□RA151MHA0G | 22 | | MN0 | 0.20 | 130 | EMVE451□RA220MMN0S | |
| 220 | | JA0 | 0.16 | 375 | EMVE350□RA221MJA0G | | | | | | | |

□ : Enter the appropriate terminal code.

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