

## MV Series Long Life

### Features

- ◆ Chip type long life capacitance in large case sizes
- ◆ Chip type with Endurance of 3000 hours at +105°C
- ◆ Designed for surface mounting on high density PC board
- ◆ Applicable to automatic insertion machine using carrier tape
- ◆ RoHS Compliant



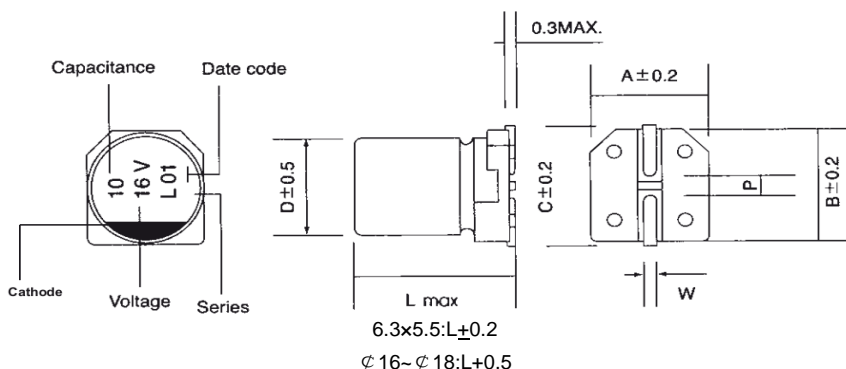
### Specifications

| Item                                       | Performance Characteristics   |
|--|---|
| Operating Temperature Range                | -40~ +105°C   |
| Rated Voltage Range                        | 6.3~50 VDC  |
| Capacitance Range                          | 0.1 to 1000µF   |
| Capacitance Tolerance                      | ±20%(120Hz, +20°C)  |
| Leakage Current (+20°C, max.)              | I ≤ 0.01 CV or 3 (µA) After 2 minutes whichever is greater measured with rated working voltage applied.                               |
| Dissipation Factor (tanδ, at 20°C, 120Hz)  | Working Voltage(VDC)  |
|  | D.F.(%)max  |
| Low Temperature Characteristics (at 120Hz) | Impedance ratio max   |
|  | Rated voltage(VDC)  |
|  | Z-25°C / Z+20°C   |
| Endurance                                  | Test conditions   |
|  | Duration time   |
|  | Ambient temperature   |
|  | Applied voltage   |
|  | After test requirement at +20°C:  |
|  | Capacitance change  |
| Shelf Life                                 | Test conditions   |
|  | Duration time   |
|  | Ambient temperature   |
|  | Applied voltage   |
|  | After test requirement at +20°C   |
|  | Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.                             |
| Resistance to soldering heat               | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them at 250°C for 30 seconds. |
|  | Leakage   |
|  | Capacitance   |
|  | tanδ  |

### Multiplier for Ripple Current vs. Frequency

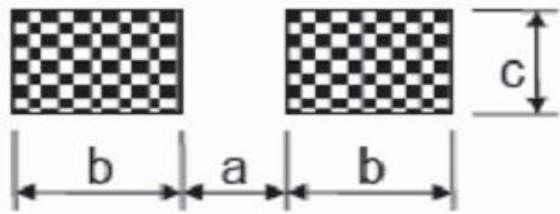
| CAP(µF) \ Frequency(Hz) | 60(50) | 120 | 500  | 1K   | ≧ 10K |
|-------------------------|--------|-----|------|------|-------|
| 0.1 ≧ CAP ≧ 100µF       | 0.8    | 1.0 | 1.20 | 1.30 | 1.50  |
| 100 < CAP ≧ 1000µF      | 0.8    | 1.0 | 1.10 | 1.15 | 1.20  |

### Diagram of Dimensions:(unit:mm)



| φD   | L    | A    | B    | C    | W       | P   |
|------|------|------|------|------|---------|-----|
| 4    | 5.5  | 4.3  | 4.3  | 4.9  | 0.5~0.8 | 1.0 |
| 5    | 5.5  | 5.3  | 5.3  | 5.9  | 0.5~0.8 | 1.4 |
| 6.3  | 5.5  | 6.6  | 6.6  | 7.2  | 0.5~0.8 | 2.2 |
| 6.3  | 7.7  | 6.6  | 6.6  | 7.2  | 0.5~0.8 | 2.2 |
| 8    | 6.5  | 8.3  | 8.3  | 9.0  | 0.5~0.8 | 2.3 |
| 8    | 10.5 | 8.3  | 8.3  | 9.0  | 0.7~1.1 | 3.1 |
| 10   | 10.5 | 10.3 | 10.3 | 11.0 | 0.7~1.1 | 4.5 |
| 12.5 | 14   | 13.0 | 13.0 | 13.9 | 1.0~1.4 | 4.5 |
| 16   | 17   | 17.1 | 17.1 | 18.0 | 1.0~1.4 | 7.0 |
| 16   | 21.5 | 17.1 | 17.1 | 18.0 | 1.0~1.4 | 7.0 |
| 18   | 16.5 | 19.1 | 19.1 | 20.0 | 1.0~1.4 | 7.5 |
| 18   | 21.5 | 19.1 | 19.1 | 20.0 | 1.0~1.4 | 7.5 |

**Recommended land pattern:(unit:mm)**



| $\Phi D \times L$            | a   | b   | c   |
|------------------------------|-----|-----|-----|
| 4 x all                      | 1   | 2.6 | 1.6 |
| 5 x all                      | 1.4 | 3   | 1.6 |
| 6.3 x all                    | 2.1 | 3.5 | 1.6 |
| 8 x 6.5 (height $\leq 6.5$ ) | 2.1 | 4.5 | 1.6 |
| 8 x 6.5 (height $> 6.5$ )    | 2.8 | 4.2 | 1.9 |
| 10 x all                     | 4.3 | 4.4 | 1.9 |
| 12.5 x all                   | 4.3 | 5.8 | 2.5 |
| 16 x all                     | 6   | 6.5 | 3.5 |
| 18 x all                     | 6   | 7.5 | 3.5 |

