



SMG Series

- Endurance : 2,000 hours at 85°C
- Solvent resistant type except 315 to 450V_{dc}
(see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant



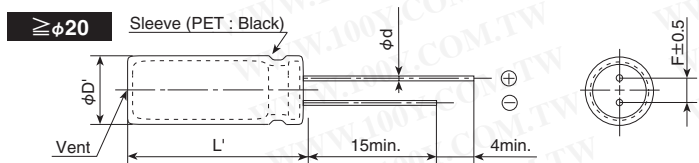
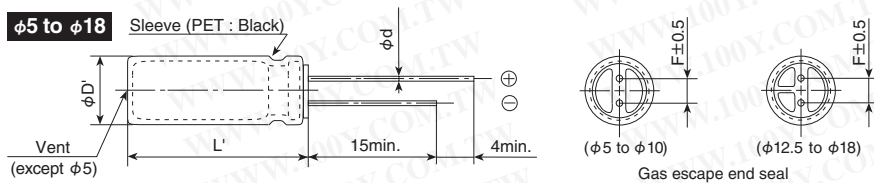
勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

◆ SPECIFICATIONS

| Items | Characteristics | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|-----------------|------|------------------|------|------------------|---------------------------------------|------|-------------|-------------|------|--------------|------|--|----------------|--|--|--|----------------|--|--|--|------------|------------|-----------------|--|------------------|--|------------------|--|--|
| Category | -40 to +85°C (6.3 to 400V _{dc}) -25 to +85°C (450V _{dc}) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature Range | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated Voltage Range | 6.3 to 450V _{dc} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% (M) (at 20°C, 120Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | ≤φ18 | 6.3 to 100V _{dc} | | | | | | 160 to 450V _{dc} | | | | | | | | | | | | | | | | | | | | | | | | |
| | | I=0.03CV or 4μA, whichever is greater. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (at 20°C after 1 minute) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th rowspan="2">CV</th> <th colspan="2">Time</th> <th colspan="4">After 1 minute</th> <th colspan="4">After 5 minute</th> </tr> <tr> <th>CV ≤ 1,000</th> <th>CV > 1,000</th> <th colspan="2">I=0.1CV+40 max.</th> <th colspan="2">I=0.03CV+15 max.</th> <th colspan="2">I=0.02CV+25 max.</th> <th colspan="2"></th> </tr> </table> | | | | | | | | | | | | CV | Time | | After 1 minute | | | | After 5 minute | | | | CV ≤ 1,000 | CV > 1,000 | I=0.1CV+40 max. | | I=0.03CV+15 max. | | I=0.02CV+25 max. | | |
| CV | Time | | After 1 minute | | | | After 5 minute | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CV ≤ 1,000 | CV > 1,000 | I=0.1CV+40 max. | | I=0.03CV+15 max. | | I=0.02CV+25 max. | | | | | | | | | | | | | | | | | | | | | | | | | |
| ≥φ20 | I=0.03CV (at 20°C after 3 minutes) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor (tanδ) | Rated voltage (V _{dc}) | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V | 100V | 160 to 250V | 315 to 400V | 450V | | | | | | | | | | | | | | | | | | | | |
| | tanδ (Max.) | ≤φ18 | 0.34 | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 | 0.09 | 0.08 | 0.20 | 0.24 | 0.24 | | | | | | | | | | | | | | | | | | | |
| | | ≥φ20 | 0.28 | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 | 0.09 | 0.08 | 0.15 | 0.15 | 0.20 | | | | | | | | | | | | | | | | | | | |
| When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000MF increase. (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 | 315 to 400V | 450V | | | | | | | | | | | | | | | | | | | | |
| | Z(-25°C)/Z(+20°C) | ≤φ18 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 6 | 6 | | | | | | | | | | | | | | | | | | | |
| | | ≥φ20 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 4 | 6 | 6 | | | | | | | | | | | | | | | | | | | |
| | Z(-40°C)/Z(+20°C) | ≤φ18 | 12 | 10 | 8 | 5 | 4 | 3 | 3 | 3 | 4 | 6 | — (at 120Hz) | | | | | | | | | | | | | | | | | | | |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2,000 hours at 85°C. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Capacitance change | ≤ ±20% of the initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | D.F. (tanδ) | ≤ 200% 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 85°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. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Rated voltage | 6.3 to 100V _{dc} | | | | | | 160 to 450V _{dc} | | | | | | | | | | | | | | | | | | | | | | | | |
| | Capacitance change | ≤ ±20% of the initial value | | | | | | ≤ ±20% of the initial value | | | | | | | | | | | | | | | | | | | | | | | | |
| | D.F. (tanδ) | ≤ 200% of the initial specified value | | | | | | ≤ 200% of the initial specified value | | | | | | | | | | | | | | | | | | | | | | | | |
| | Leakage current | ≤ The initial specified value | | | | | | ≤ 500% of the initial specified value | | | | | | | | | | | | | | | | | | | | | | | | |

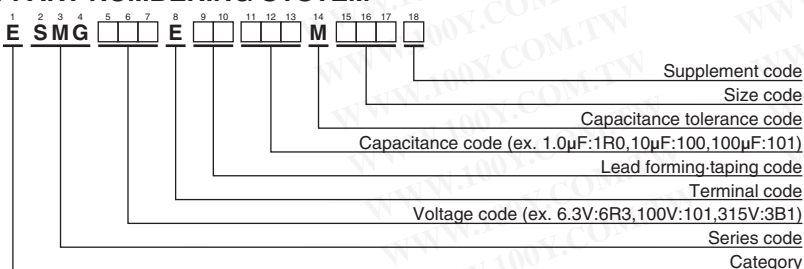
◆ DIMENSIONS [mm]

● Terminal Code : E



| φD | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 | 20 | 22 |
|-----|------------|-----|-----|-----|------|-----|-----|------|------------|
| φd | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 1.0 | 1.0 |
| F | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 | 10.0 | 10.0 |
| φD' | φD+0.5max. | | | | | | | | φD+0.5max. |
| L' | L+1.5max. | | | | | | | | L+2.0max. |

◆ PART NUMBERING SYSTEM



Please refer to "Product code guide (radial lead type)"



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STANDARD RATINGS

Table with columns: WV (Vdc), Cap (µF), Case size φD×L(mm), tanδ, Rated ripple current (mArms/85°C,120Hz), Part No. The table is divided into two main sections, each with sub-sections for different WV values (6.3, 10, 16, 25, 63, 100) and various capacitor specifications.

□□ : Enter the appropriate lead forming or taping code.



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STANDARD RATINGS

is not solvent resistant.

Table with columns: WV (Vdc), Cap (µF), Case size φD×L(mm), tanδ, Rated ripple current (mA rms/85°C, 120Hz), Part No. The table is divided into sections for WV values 100, 160, 200, 250, 315, 350, 400, and 450.

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◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

(φ5 to φ18)

| Capacitance (μF) \ Frequency (Hz) | 50 | 120 | 300 | 1k | 10k | 100k |
|-----------------------------------|------|------|------|------|------|------|
| 1.0 to 4.7 | 0.65 | 1.00 | 1.35 | 1.75 | 2.30 | 2.50 |
| 10 to 47 | 0.75 | 1.00 | 1.25 | 1.50 | 1.75 | 1.80 |
| 100 to 1,000 | 0.80 | 1.00 | 1.15 | 1.30 | 1.40 | 1.50 |
| 2,200 to | 0.85 | 1.00 | 1.03 | 1.05 | 1.08 | 1.08 |

(φ20, φ22)

| Rated Voltage (V _o) \ Frequency (Hz) | 50 | 120 | 300 | 1k | 10k | 100k |
|--|------|------|------|------|------|------|
| 6.3 to 50 | 0.95 | 1.00 | 1.03 | 1.05 | 1.08 | 1.08 |
| 63 to 100 | 0.92 | 1.00 | 1.07 | 1.13 | 1.19 | 1.20 |
| 160 to 250 | 0.81 | 1.00 | 1.17 | 1.32 | 1.45 | 1.50 |
| 315 to 450 | 0.77 | 1.00 | 1.16 | 1.30 | 1.41 | 1.43 |

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.