

Code in front of series have been extracted from product code, which describes the segment of products, such as type and features.

- Compatible with surface mounting, low ESR capacitors.
- Environmental : GREEN CAP™, RoHS compliance.
- Supplied with carrier taping.
- Guaranteed 1000 to 5000 hours at 125°C.
(See table below)

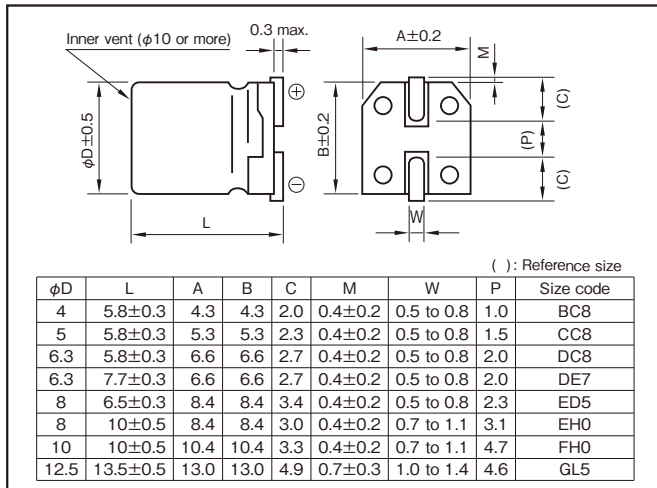


Specifications

| Item | Performance |
|---|---|
| Category temperature range (°C) | -40 to +125 |
| Tolerance at rated capacitance (%) | ±20 (20°C, 120Hz) |
| Leakage current (µA) (max.) | 0.01CV or 3 whichever is larger (after 2 minutes) C : Rated capacitance (µF) ; V : Rated voltage (V) (20°C) |
| Tangent of loss angle (tanδ) | Rated voltage (V) |
| | tanδ (max.) |
| Characteristics at high and low temperature | Rated voltage (V) |
| | Impedance Ratio (max.) |
| | |
| Endurance (125°C) (Applied ripple current) | Test time |
| | Leakage current |
| | Capacitance change |
| | Tangent of loss angle |
| Shelf life (125°C) | Test time : 1000hours ; other items are same as the endurance. Voltage application treatment : According to JIS C5101-4 4.1 |
| Applicable standards | JIS C5101 - 1, - 18 (IEC 60384 - 1, - 18) |

Outline Drawing

Unit : mm



Refer to individual page.
(Soldering conditions, Land pattern size, The taping specifications)

Coefficient of Frequency for Rated Ripple Current

| Rated voltage(V) | Frequency (Hz) | | | |
|------------------|----------------|------|------|------|
| | 120 | 1k | 10k | 100k |
| 10 to 100 | 0.77 | 0.88 | 0.96 | 1 |

Product code system (*For general product)

φ10 or less (example : 16V100µF)

| RS* | VVT | 101 | M | 1E | FH0 | 002 | U |
|---------------|-------------|------------------|---------------|--------------|-----------|-------------------------|-----------------|
| Category code | Series code | capacitance code | Cap tol. code | Voltage code | Size code | Taping and packing code | Additional code |

50V or less : φ12.5 (example : 35V330µF)

| RS* | VVT | 331 | M | 1G | GL5 | 005 | T |
|---------------|-------------|------------------|---------------|--------------|-----------|-------------------------|-----------------|
| Category code | Series code | capacitance code | Cap tol. code | Voltage code | Size code | Taping and packing code | Additional code |

63V to 100V : φ12.5 (example : 63V100µF)

| RS* | VVT | 101 | M | 4E | GL5 | 005 | KT |
|---------------|-------------|------------------|---------------|--------------|-----------|-------------------------|-----------------|
| Category code | Series code | capacitance code | Cap tol. code | Voltage code | Size code | Taping and packing code | Additional code |

- If "For Vibration Resistance" type is required, please see the series VTT.
- For details, refer to the various "Product Code System" pages.

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Standard Ratings

| Rated voltage(V) Rated capacitance(μF) | Item Case φD×L (mm) | 10 (1L) | | | 16 (1E) | | | 25 (1T) | | | | |
|---|---------------------------|-------------|-------|---------------------------------|-------------|-------|---------------------------------|-------------|-----------|---------------------------------|------|-----|
| | | ESR(Ω max.) | | Rated ripple current (mArms) | ESR(Ω max.) | | Rated ripple current (mArms) | ESR(Ω max.) | | Rated ripple current (mArms) | | |
| | | 20°C | -40°C | | 20°C | -40°C | | 20°C | -40°C | | | |
| 10 | — | — | — | — | 4×5.8 | 3.0 | 45 | 50 | 5×5.8 | 1.5 | 23 | 81 |
| 22 | 4×5.8 | 3.0 | 45 | 50 | 5×5.8 | 1.5 | 23 | 81 | 6.3×5.8 | 1.0 | 15 | 114 |
| 33 | 5×5.8 | 1.5 | 23 | 81 | 6.3×5.8 | 1.0 | 15 | 114 | 6.3×5.8 | 1.0 | 15 | 114 |
| 47 | — | — | — | — | 6.3×5.8 | 1.0 | 15 | 114 | 6.3×7.7 | 0.60 | 9.0 | 165 |
| | 8×6.5 | 0.60 | 9.0 | 180 | | | | | | | | |
| 100 | — | — | — | — | — | — | — | — | 6.3×7.7 | 0.60 | 9.0 | 165 |
| | 8×6.5 | 0.60 | 9.0 | 180 | 8×10 | 0.20 | 2.0 | 340 | 8×6.5 | 0.60 | 9.0 | 180 |
| | 8×10 | 0.20 | 2.0 | 340 | 10×10 | 0.15 | 1.5 | 500 | 8×10 | 0.20 | 2.0 | 340 |
| 220 | 6.3×7.7 | 0.60 | 9.0 | 165 | 8×10 | 0.20 | 2.0 | 340 | 8×10 | 0.20 | 2.0 | 340 |
| | 8×6.5 | 0.60 | 9.0 | 180 | 10×10 | 0.15 | 1.5 | 500 | 10×10 | 0.15 | 1.5 | 500 |
| 330 | 8×10 | 0.20 | 2.0 | 340 | 10×10 | 0.15 | 1.5 | 500 | 10×10 | 0.15 | 1.5 | 500 |
| | 10×10 | 0.15 | 1.5 | 500 | | | | | 12.5×13.5 | 0.086 | 1.29 | 750 |
| 470 | 10×10 | 0.15 | 1.5 | 500 | 12.5×13.5 | 0.086 | 1.29 | 750 | 12.5×13.5 | 0.086 | 1.29 | 750 |
| 680 | 12.5×13.5 | 0.086 | 1.29 | 750 | 12.5×13.5 | 0.086 | 1.29 | 750 | — | — | — | — |
| 1000 | 12.5×13.5 | 0.086 | 1.29 | 750 | — | — | — | — | — | — | — | — |

| Rated voltage(V) Rated capacitance(μF) | Item Case φD×L (mm) | 35 (1G) | | | 50 (1U) | | | 63 (4E) | | | | |
|---|---------------------------|-------------|-------|---------------------------------|-------------|-------|---------------------------------|-------------|-----------|---------------------------------|------|-----|
| | | ESR(Ω max.) | | Rated ripple current (mArms) | ESR(Ω max.) | | Rated ripple current (mArms) | ESR(Ω max.) | | Rated ripple current (mArms) | | |
| | | 20°C | -40°C | | 20°C | -40°C | | 20°C | -40°C | | | |
| 4.7 | 4×5.8 | 3.0 | 45 | 50 | — | — | — | — | — | — | — | |
| 10 | 5×5.8 | 1.5 | 23 | 81 | 6.3×5.8 | 3.2 | 48 | 58 | 6.3×7.7 | 1.8 | 36 | 95 |
| | 6.3×5.8 | 1.0 | 15 | 114 | | | | | | | | |
| 22 | 6.3×5.8 | 1.0 | 15 | 114 | 6.3×7.7 | 1.2 | 18 | 95 | 8×10 | 0.70 | 14 | 140 |
| 33 | 6.3×7.7 | 0.60 | 9.0 | 165 | 6.3×7.7 | 1.2 | 18 | 95 | 8×10 | 0.70 | 14 | 140 |
| | 8×6.5 | 0.60 | 9.0 | 180 | 8×10 | 0.50 | 7.5 | 180 | 10×10 | 0.50 | 10 | 200 |
| 47 | 6.3×7.7 | 0.60 | 9.0 | 165 | 8×10 | 0.50 | 7.5 | 180 | 8×10 | 0.70 | 14 | 140 |
| | 8×6.5 | 0.60 | 9.0 | 180 | | | | | | | | |
| | 8×10 | 0.20 | 2.0 | 340 | | | | | | | | |
| 100 | 8×10 | 0.20 | 2.0 | 340 | 10×10 | 0.30 | 4.5 | 280 | 12.5×13.5 | 0.25 | 3.75 | 400 |
| | 10×10 | 0.15 | 1.5 | 500 | 12.5×13.5 | 0.18 | 2.7 | 550 | | | | |
| 220 | 10×10 | 0.15 | 1.5 | 500 | 12.5×13.5 | 0.18 | 2.7 | 550 | — | — | — | — |
| 330 | 12.5×13.5 | 0.086 | 1.29 | 750 | — | — | — | — | — | — | — | — |

| Rated voltage(V) Rated capacitance(μF) | Item Case φD×L (mm) | 80 (1R) | | | 100 (1H) | | | |
|---|---------------------------|-------------|-------|---------------------------------|-------------|-------|---------------------------------|-----|
| | | ESR(Ω max.) | | Rated ripple current (mArms) | ESR(Ω max.) | | Rated ripple current (mArms) | |
| | | 20°C | -40°C | | 20°C | -40°C | | |
| 10 | 8×10 | 0.75 | 15 | 110 | 8×10 | 0.75 | 15 | 110 |
| 22 | 8×10 | 0.75 | 15 | 110 | 8×10 | 0.75 | 15 | 110 |
| | 10×10 | 0.55 | 11 | 150 | 10×10 | 0.55 | 11 | 150 |
| 33 | 8×10 | 0.75 | 15 | 110 | 10×10 | 0.55 | 11 | 150 |
| | 10×10 | 0.55 | 11 | 150 | | | | |
| 47 | — | — | — | — | 12.5×13.5 | 0.32 | 4.8 | 300 |

(Note) Rated ripple current : 125°C, 100kHz
ESR : 100kHz