

## Chip Type 105°C Standard Capacitors

GREEN  
CAP

SMD

105°C  
1000hours

Anti-  
cleaning  
solvent

- Compatible with surface mounting.
- Supplied with carrier taping.
- Guarantees 1000 hours at 105°C.

RVS

High temperature

RV2



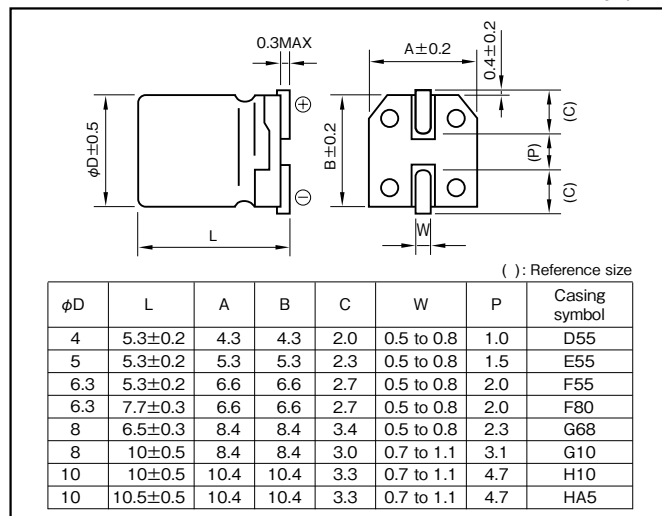
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## Specifications

| Item                                          | Performance                                                                                                                           |                                             |      |      |      |      |      |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------|------|------|------|------|
| Category temperature range (°C)               | -55 to +105                                                                                                                           |                                             |      |      |      |      |      |
| Tolerance at rated capacitance (%)            | ±20 (20°C,120Hz)                                                                                                                      |                                             |      |      |      |      |      |
| Leakage current (μA)                          | Less than 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)                                                                                                                     | 6.3                                         | 10   | 16   | 25   | 35   | 50   |
|                                               | tanδ (max.)                                                                                                                           | 0.30                                        | 0.26 | 0.22 | 0.16 | 0.13 | 0.12 |
| (20°C,120Hz)                                  |                                                                                                                                       |                                             |      |      |      |      |      |
| Characteristics at high and low temperature   | Rated voltage (V)                                                                                                                     | 6.3                                         | 10   | 16   | 25   | 35   | 50   |
|                                               | Impedance ratio (max.)                                                                                                                | Z-25°C/Z+20°C                               | 4    | 3    | 2    | 2    | 2    |
|                                               |                                                                                                                                       | Z-40°C/Z+20°C                               | 8    | 5    | 4    | 3    | 3    |
| (120Hz)                                       |                                                                                                                                       |                                             |      |      |      |      |      |
| Endurance (105°C)<br>(Applied ripple current) | Test time                                                                                                                             | 1000 hours                                  |      |      |      |      |      |
|                                               | Leakage current                                                                                                                       | The initial specified value or less         |      |      |      |      |      |
|                                               | Percentage of capacitance change                                                                                                      | Within ±20% of initial value                |      |      |      |      |      |
|                                               | Tangent of the loss angle                                                                                                             | 200% or less of the initial specified value |      |      |      |      |      |
| Shelf life (105°C)                            | Test time : 1000 hours; other items are the same as those for the endurance. Voltage application treatment : According to JIS C5101-1 |                                             |      |      |      |      |      |
| Applicable standards                          | JIS C5101-1 1998, -18 1999 (IEC 60384-1 1992, -18 1993)                                                                               |                                             |      |      |      |      |      |

## Outline Drawing

Unit : mm



- Soldering conditions are described on page 13.
- Land pattern size are described on page 11.
- The taping specifications are described on page 14.

## Coefficient of Frequency for Rated Ripple Current

| Frequency (Hz)    | 50 · 60 | 120 | 1k   | 10k · 100k |
|-------------------|---------|-----|------|------------|
| Rated voltage (V) |         |     |      |            |
| 6.3 to 16         | 0.80    | 1   | 1.15 | 1.25       |
| 25 to 35          | 0.80    | 1   | 1.25 | 1.40       |
| 50                | 0.80    | 1   | 1.35 | 1.50       |

## Part numbering system (example : 16V47μF)

|             |   |                      |   |                          |                              |               |   |   |               |
|-------------|---|----------------------|---|--------------------------|------------------------------|---------------|---|---|---------------|
| RVS         | — | 16                   | V | 470                      | M                            | F55           | U | — | □             |
| Series code |   | Rated voltage symbol |   | Rated capacitance symbol | Capacitance tolerance symbol | Casing symbol |   |   | Taping symbol |

## Standard Ratings

| Rated voltage (V)<br>Rated capacitance (μF) | Item    | 6.3      |     |                      | 10       |      |                      | 16       |      |                      | 25       |      |                      | 35       |      |                      | 50       |      |                      |
|---------------------------------------------|---------|----------|-----|----------------------|----------|------|----------------------|----------|------|----------------------|----------|------|----------------------|----------|------|----------------------|----------|------|----------------------|
|                                             |         | Case     | ESR | Rated ripple current | Case     | ESR  | Rated ripple current | Case     | ESR  | Rated ripple current | Case     | ESR  | Rated ripple current | Case     | ESR  | Rated ripple current | Case     | ESR  | Rated ripple current |
|                                             |         | φD×L(mm) | (Ω) | (mA <sub>rms</sub> ) | φD×L(mm) | (Ω)  | (mA <sub>rms</sub> ) | φD×L(mm) | (Ω)  | (mA <sub>rms</sub> ) | φD×L(mm) | (Ω)  | (mA <sub>rms</sub> ) | φD×L(mm) | (Ω)  | (mA <sub>rms</sub> ) | φD×L(mm) | (Ω)  | (mA <sub>rms</sub> ) |
| 0.22                                        | —       | —        | —   | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | 4×5.3    | 905  | 3                    |
| 0.33                                        | —       | —        | —   | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | 4×5.3    | 603  | 4                    |
| 0.47                                        | —       | —        | —   | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | 4×5.3    | 424  | 5                    |
| 1                                           | —       | —        | —   | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | 4×5.3    | 199  | 7                    |
| 2.2                                         | —       | —        | —   | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | 4×5.3    | 91   | 10                   |
| 3.3                                         | —       | —        | —   | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | 4×5.3    | 60   | 12                   |
| 4.7                                         | —       | —        | —   | —                    | —        | —    | —                    | —        | —    | —                    | 4×5.3    | 57   | 12                   | 4×5.3    | 46   | 14                   | 5×5.3    | 42   | 17                   |
| 10                                          | —       | —        | —   | —                    | 4×5.3    | 43   | 15                   | 4×5.3    | 36   | 16                   | 5×5.3    | 27   | 21                   | 5×5.3    | 22   | 23                   | 6.3×5.3  | 20   | 26                   |
| 22                                          | 4×5.3   | 23       | 21  | —                    | 5×5.3    | 20   | 25                   | 5×5.3    | 17   | 28                   | 6.3×5.3  | 12   | 36                   | 6.3×5.3  | 10   | 50                   | 8×6.5    | 9.0  | 51                   |
| 33                                          | 5×5.3   | 15       | 30  | —                    | 5×5.3    | 13   | 31                   | 6.3×5.3  | 11   | 40                   | 6.3×5.3  | 8.0  | 44                   | 8×6.5    | 6.5  | 59                   | 6.3×7.7  | 6.0  | 60                   |
| 47                                          | 5×5.3   | 11       | 36  | —                    | 6.3×5.3  | 9.2  | 43                   | 6.3×5.3  | 7.8  | 47                   | 8×6.5    | 5.6  | 66                   | —        | —    | —                    | 6.3×7.7  | 4.2  | 63                   |
| 100                                         | 6.3×5.3 | 5.0      | 61  | —                    | 6.3×5.3  | 4.3  | 60                   | 6.3×5.3  | 3.6  | 60                   | 6.3×7.7  | 2.7  | 91                   | 6.3×7.7  | 2.2  | 84                   | 8×10     | 2.0  | 140                  |
| 150                                         | —       | —        | —   | —                    | —        | —    | —                    | 6.3×7.7  | 2.4  | 105                  | 8×10     | 1.8  | 140                  | 8×10     | 1.4  | 155                  | 10×10    | 1.3  | 180                  |
| 220                                         | 8×6.5   | 2.3      | 102 | —                    | 6.3×7.7  | 2.0  | 105                  | 6.3×7.7  | 1.7  | 105                  | 8×10     | 1.2  | 155                  | 8×10     | 0.98 | 190                  | 10×10.5  | 0.91 | 220                  |
| 330                                         | 6.3×7.7 | 1.5      | 105 | —                    | 8×10     | 1.3  | 195                  | 8×10     | 1.1  | 195                  | 8×10     | 0.80 | 190                  | 10×10.5  | 0.65 | 300                  | —        | —    | —                    |
| 470                                         | 8×10    | 1.1      | 210 | —                    | 8×10     | 0.92 | 210                  | 8×10     | 0.78 | 230                  | 10×10    | 0.57 | 300                  | —        | —    | —                    | —        | —    | —                    |
| 680                                         | 8×10    | 0.73     | 210 | —                    | 10×10    | 0.63 | 310                  | 10×10    | 0.54 | 310                  | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    |
| 1000                                        | 8×10    | 0.50     | 210 | —                    | 10×10    | 0.43 | 310                  | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    |
| 1500                                        | 10×10   | 0.33     | 310 | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    | —        | —    | —                    |

(Note) Rated ripple current : 105°C , 120Hz ; ESR : 20°C , 120Hz