

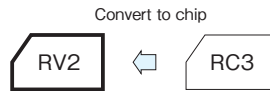
## ChipType Standard Capacitors (height:5.5mm)

GREEN  
CAP

SMD

Anti-  
cleaning  
solvent

- Compatible with surface mounting for 5.5mm high capacitors.
- Supplied with carrier taping.
- Guarantees 2000 hours at 85°C.



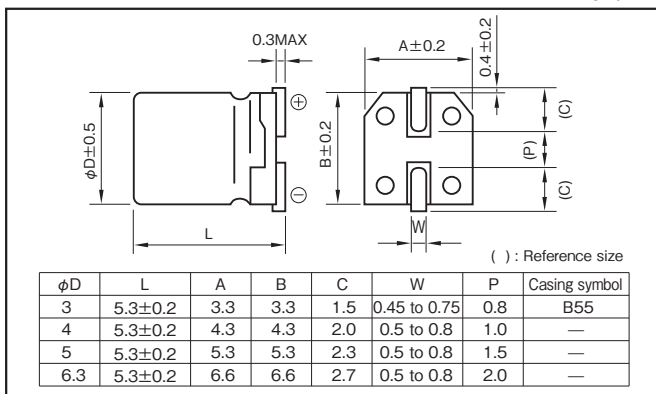
Marking color : Black print

## Specifications

| Item                                           | Performance                                                                                                                           |                                                          |               |                              |      |      |      |              |        |   |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------|------------------------------|------|------|------|--------------|--------|---|
| Category temperature range (°C)                | -40 to +85                                                                                                                            |                                                          |               |                              |      |      |      |              |        |   |
| 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<br>(tanδ)                | Rated voltage (V)                                                                                                                     |                                                          | 4             | 6.3                          | 10   | 16   | 25   | 35           | 50     |   |
|                                                | tanδ (max.)                                                                                                                           | φ3                                                       | 0.42          | 0.30                         | 0.24 | 0.22 | 0.16 | 0.14         | 0.12   |   |
|                                                |                                                                                                                                       | φ4 to φ6.3                                               | 0.42          | 0.28                         | 0.24 | 0.20 | 0.14 | 0.12         | 0.10   |   |
| Characteristics at high<br>and low temperature | Rated voltage(V)                                                                                                                      |                                                          | 4             | 6.3                          | 10   | 16   | 25   | 35           | 50     |   |
|                                                | Impedance ratio<br>(max.)                                                                                                             | φ3                                                       | Z-25°C/Z+20°C | 7                            | 4    | 3    | 2    | 2            | 2      |   |
|                                                |                                                                                                                                       |                                                          | Z-40°C/Z+20°C | 17                           | 10   | 8    | 6    | 4            | 3      | 3 |
|                                                |                                                                                                                                       | φ4 to<br>φ6.3                                            | Z-25°C/Z+20°C | 7                            | 3    | 3    | 2    | 2            | 2      | 2 |
|                                                |                                                                                                                                       |                                                          | Z-40°C/Z+20°C | 15                           | 8    | 5    | 4    | 3            | 3      | 3 |
|                                                | Endurance (85°C)<br>(Applied ripple current)                                                                                          | Test time                                                |               | 2000 hours (φ3 : 1000 hours) |      |      |      |              |        |   |
| Leakage current                                |                                                                                                                                       | The initial specified value or less                      |               |                              |      |      |      |              |        |   |
| Percentage of capacitance change               |                                                                                                                                       | Within ±20% of initial value (4WV : ±30%)                |               |                              |      |      |      |              |        |   |
| Tangent of the loss angle                      |                                                                                                                                       | 200% or less of the initial specified value (4WV : 300%) |               |                              |      |      |      |              |        |   |
| Shelf life (85°C)                              | Test time : 1000hours ; 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



## Coefficient of Frequency for Rated Ripple Current

| Rated voltage (V) | Frequency (Hz) | 50 · 60 | 120 | 1k   | 10k · 100k |
|-------------------|----------------|---------|-----|------|------------|
| 4 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

• φ3 (example : 16V10μF)

|             |   |                      |   |                          |                              |               |   |   |               |
|-------------|---|----------------------|---|--------------------------|------------------------------|---------------|---|---|---------------|
| RV2         | — | 16                   | V | 100                      | M                            | B55           | U | — | □             |
| Series code |   | Rated voltage symbol |   | Rated capacitance symbol | Capacitance tolerance symbol | Casing symbol |   |   | Taping symbol |

• φ4 to φ6.3 (example : 16V47μF)

|             |   |                      |   |                          |                              |                   |   |   |               |
|-------------|---|----------------------|---|--------------------------|------------------------------|-------------------|---|---|---------------|
| RV2         | — | 16                   | V | 470                      | M                            | *                 | U | — | □             |
| Series code |   | Rated voltage symbol |   | Rated capacitance symbol | Capacitance tolerance symbol | Additional symbol |   |   | Taping symbol |

\*Should add "S", when there is a black point in standard ratings.

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

## Standard Ratings

| Rated voltage<br>(V) | Item | 4               |                  |            |                                    | 6.3             |                  |            |                                    | 10              |                  |            |                                    | 16              |                  |            |                                    | 25              |                  |            |                                    | 35              |                  |            |                                    | 50              |                  |            |                                    |
|----------------------|------|-----------------|------------------|------------|------------------------------------|-----------------|------------------|------------|------------------------------------|-----------------|------------------|------------|------------------------------------|-----------------|------------------|------------|------------------------------------|-----------------|------------------|------------|------------------------------------|-----------------|------------------|------------|------------------------------------|-----------------|------------------|------------|------------------------------------|
|                      |      | Case<br>φD (mm) | Casing<br>symbol | ESR<br>(Ω) | Rated ripple<br>current<br>(mArms) | Case<br>φD (mm) | Casing<br>symbol | ESR<br>(Ω) | Rated ripple<br>current<br>(mArms) | Case<br>φD (mm) | Casing<br>symbol | ESR<br>(Ω) | Rated ripple<br>current<br>(mArms) | Case<br>φD (mm) | Casing<br>symbol | ESR<br>(Ω) | Rated ripple<br>current<br>(mArms) | Case<br>φD (mm) | Casing<br>symbol | ESR<br>(Ω) | Rated ripple<br>current<br>(mArms) | Case<br>φD (mm) | Casing<br>symbol | ESR<br>(Ω) | Rated ripple<br>current<br>(mArms) | Case<br>φD (mm) | Casing<br>symbol | ESR<br>(Ω) | Rated ripple<br>current<br>(mArms) |
| 0.1                  | —    | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | 3                                  | B55             | 1990             | 1          |                                    |
|                      |      |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |
| 0.22                 | —    | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | 3          | B55                                | 905             | 2                |            |                                    |
|                      |      |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  | 4          | —                                  |
| 0.33                 | —    | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | 3          | B55                                | 603             | 3                |            |                                    |
|                      |      |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  | 4          | —                                  |
| 0.47                 | —    | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | 3          | B55                                | 424             | 4                |            |                                    |
|                      |      |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  | 4          | —                                  |
| 1                    | —    | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | 3          | B55                                | 199             | 6                |            |                                    |
|                      |      |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  | 4          | —                                  |
| 2.2                  | —    | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | 3               | B55              | 106        | 8                                  | 4               | —                | 75         | 15                                 |                 |                  |            |                                    |
| 3.3                  | —    | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | 3               | B55              | 70         | 9                                  | 4               | —                | 50         | 19                                 |                 |                  |            |                                    |
| 4.7                  | —    | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | 3               | B55              | 57         | 11                                 | 4               | —                | 42         | 20                                 | 5               | —                | 35         | 26                                 |
| 10                   | —    | —               | —                | —          | —                                  | —               | —                | —          | 4                                  | —               | 40               | 23         | 3                                  | B55             | 37               | 18         | 5                                  | —               | 23               | 32         | 5                                  | —               | 20               | 34         | 6.3                                | —               | 17               | 44         |                                    |
|                      |      |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            | 4                                  | —               | 33               | 26         |                                    |                 |                  |            |                                    |                 |                  |            |                                    |                 |                  |            |                                    |
| 22                   | 3    | B55             | 32               | 14         | 4                                  | —               | 21               | 31         | 5                                  | —               | 18               | 39         | 5                                  | —               | 15               | 44         | 6.3                                | —               | 11               | 55         | 6.3                                | —               | 9.1              | 59         | —                                  | —               | —                | —          |                                    |
| 33                   | 4    | —               | 21               | 31         | 5                                  | —               | 14               | 44         | 5                                  | —               | 12               | 48         | 6.3                                | —               | 10               | 63         | 6.3                                | —               | 7.0              | 67         | —                                  | —               | —                | —          | —                                  | —               | —                | —          |                                    |
| 47                   | 4    | —               | 15               | 37         | 5                                  | —               | 10               | 52         | 6.3                                | —               | 8.5              | 67         | 6.3                                | —               | 7.1              | 75         | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          |                                    |
| 100                  | 5    | —               | 7.0              | 63         | 6.3                                | —               | 5.0              | 89         | 6.3                                | —               | 4.0              | 98         | 6.3                                | —               | 3.3              | 103        | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          |                                    |
| 220                  | 6.3  | —               | 3.2              | 110        | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          | —                                  | —               | —                | —          |                                    |

(Note) Rated ripple current : 85°C, 120Hz ; ESR : 20°C, 120Hz

## NOTE

Design, Specifications are subject to change without notice.  
Ask factory for technical specifications before purchase and/or use.