

## Surface Mount Type



Series : **SVPC**



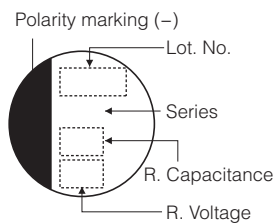
### Features

- Low ESR (9 mΩ to 30 mΩ)
- Large capacitance (2700 μF max.)
- RoHS compliance, Halogen free

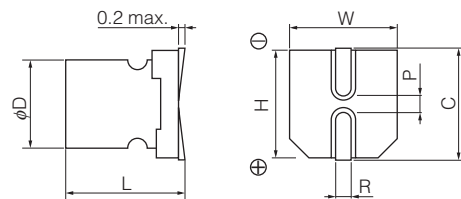
### Specifications

| Size code                  | B6   | C6  | E7               | E12               | F12      |
|----------------------------|--|---|------------------|-------------------|----------|
| Category temperature range | -55 °C to +105 °C                                |   |                  |                   |          |
| Rated voltage range        | 2.5 V.DC to 16 V.DC                              |   |                  |                   | 2.5 V.DC |
| Rated capacitance range    | 39 μF to 180 μF                                  | 68 μF to 560 μF                                     | 120 μF to 680 μF | 270 μF to 1500 μF | 2700 μF  |
| Capacitance tolerance      | ±20 % (120 Hz / + 20 °C)                         |   |                  |                   |          |
| Leakage current            | Please see the attached characteristics list     |   |                  |                   |          |
| Dissipation factor (tan δ) | Please see the attached characteristics list     |   |                  |                   |          |
| Endurance                  | +105 °C, 2000 h, rated voltage applied           |   |                  |                   |          |
|                            | Capacitance change                               | Within ±20 % of the initial value                   |                  |                   |          |
|                            | tan δ  | ≤ 150 % of the initial limit                        |                  |                   |          |
|                            | DC leakage current                               | Within the initial limit                            |                  |                   |          |
| Damp heat (Steady State)   | +60 °C, 90 % to 95 %, 1000 h, No-applied voltage |   |                  |                   |          |
|                            | Capacitance change                               | Within ±20 % of the initial value                   |                  |                   |          |
|                            | tan δ  | ≤ 150 % of the initial limit                        |                  |                   |          |
|                            | DC leakage current                               | Within the initial limit (after voltage processing) |                  |                   |          |

### Marking



### Dimensions (not to scale)



Unit : mm

| Size code | φD±0.5 | L <sup>+0.1</sup> <sub>-0.4</sub> | W±0.2 | H±0.2 | C±0.2 | R          | P±0.2 |
|-----------|--------|-----------------------------------|-------|-------|-------|------------|-------|
| B6        | 5.0    | 5.9                               | 5.3   | 5.3   | 6.0   | 0.6 to 0.8 | 1.4   |
| C6        | 6.3    | 5.9                               | 6.6   | 6.6   | 7.3   | 0.6 to 0.8 | 2.1   |
| E7        | 8.0    | 6.9                               | 8.3   | 8.3   | 9.0   | 0.6 to 0.8 | 3.2   |
| E12       | 8.0    | 11.9                              | 8.3   | 8.3   | 9.0   | 0.8 to 1.1 | 3.2   |
| F12       | 10.0   | 12.6                              | 10.3  | 10.3  | 11.0  | 0.8 to 1.1 | 4.6   |

\* Externals of figure are the reference.

## Characteristics list

| Series | Rated voltage (V.DC) | Rated capacitance (μF) | Case size (mm) |      | Size code | Specifications            |                         |                         |            |              | Standard (Reel size : φ380) |                          |
|--------|----------------------|------------------------|----------------|------|-----------|---------------------------|-------------------------|-------------------------|------------|--------------|-----------------------------|--------------------------|
|        |                      |                        | φD             | L    |           | Ripple current (mAr.m.s.) | ESR                     |                         | tan δ*2    | LC*3 (μA)    | Part number                 | Min. Packaging Qty (pcs) |
|        |                      |                        |                |      |           |                           | 100 kHz/20 °C (mΩ max.) | 300 kHz/20 °C (mΩ max.) |            |              |                             |                          |
| SVPC   | 2.5                  | 180                    | 5.0            | 5.9  | B6        | 1970                      | 30                      | 26                      | 0.12       | 300          | 2R5SVPC180M                 | 1500                     |
|        |                      |                        | 5.0            | 5.9  |           | 2200                      | 24                      | 20                      | 0.12       | 300          | 2R5SVPC180MY                | 1500                     |
|        |                      |                        | 5.0            | 5.9  |           | 2800                      | 19                      | 16                      | 0.12       | 300          | 2R5SVPC180MV                | 1500                     |
|        |                      | 390                    | 6.3            | 5.9  | C6        | 2410                      | 25                      | 22                      | 0.12       | 300          | 2R5SVPC390M                 | 1000                     |
|        |                      |                        | 6.3            | 5.9  |           | 3160                      | 15                      | 13                      | 0.12       | 300          | 2R5SVPC390MV                | 1000                     |
|        |                      |                        | 6.3            | 5.9  |           | 3500                      | 16                      | 14                      | 0.12       | 300          | 2R5SVPC560M                 | 1000                     |
|        |                      | 680                    | 8.0            | 6.9  | E7        | 3370                      | 20                      | 17                      | 0.12       | 500          | 2R5SVPC680M                 | 1000                     |
|        |                      | 820                    | 8.0            | 11.9 | E12       | 5380                      | 9                       | 8                       | 0.15       | 500          | 2R5SVPC820M                 | 400                      |
|        |                      | 1500                   | 8.0            | 11.9 |           | 5150                      | 10                      | 9                       | 0.15       | 750          | 2R5SVPC1500M                | 400                      |
|        | 2700                 | 10.0                   | 12.6           | F12  | 5070      | 12                        | 10                      | 0.15                    | 1350       | 2R5SVPC2700M | 400                         |                          |
|        | 4.0                  | 150                    | 5.0            | 5.9  | B6        | 1970                      | 30                      | 26                      | 0.12       | 300          | 4SVPC150M                   | 1500                     |
|        |                      |                        | 5.0            | 5.9  |           | 2240                      | 23                      | 20                      | 0.12       | 300          | 4SVPC150MY                  | 1500                     |
|        |                      |                        | 5.0            | 5.9  |           | 2730                      | 20                      | 17                      | 0.12       | 300          | 4SVPC150MV                  | 1500                     |
|        |                      | 330                    | 6.3            | 5.9  | C6        | 2320                      | 27                      | 23                      | 0.12       | 300          | 4SVPC330M                   | 1000                     |
|        |                      |                        | 6.3            | 5.9  |           | 2630                      | 21                      | 18                      | 0.12       | 300          | 4SVPC330MY                  | 1000                     |
|        |                      |                        | 6.3            | 5.9  |           | 3160                      | 15                      | 13                      | 0.12       | 300          | 4SVPC330MV                  | 1000                     |
|        |                      | 560                    | 8.0            | 6.9  | E7        | 3220                      | 22                      | 19                      | 0.12       | 500          | 4SVPC560M                   | 1000                     |
|        |                      |                        | 8.0            | 11.9 | E12       | 5380                      | 9                       | 8                       | 0.15       | 500          | 4SVPC560MX                  | 400                      |
|        |                      | 1200                   | 8.0            | 11.9 |           | 4700                      | 12                      | 10                      | 0.15       | 960          | 4SVPC1200M                  | 400                      |
|        | 1500                 | 8.0                    | 11.9           | 4700 |           | 12                        | 10                      | 0.15                    | 1200       | 4SVPC1500M   | 400                         |                          |
|        | 6.3                  | 100                    | 5.0            | 5.9  | B6        | 1970                      | 30                      | 26                      | 0.12       | 300          | 6SVPC100M                   | 1500                     |
|        |                      |                        | 5.0            | 5.9  |           | 2150                      | 25                      | 21                      | 0.12       | 300          | 6SVPC100MY                  | 1500                     |
|        |                      | 120                    | 5.0            | 5.9  | C6        | 2660                      | 21                      | 18                      | 0.12       | 300          | 6SVPC120MV                  | 1500                     |
|        |                      | 220                    | 6.3            | 5.9  |           | 2320                      | 27                      | 23                      | 0.12       | 300          | 6SVPC220M                   | 1000                     |
|        |                      |                        | 6.3            | 5.9  |           | 3160                      | 15                      | 13                      | 0.12       | 300          | 6SVPC220MV                  | 1000                     |
|        |                      | 330                    | 6.3            | 5.9  |           | 3390                      | 17                      | 15                      | 0.12       | 415          | 6SVPC330M                   | 1000                     |
|        |                      | 390                    | 8.0            | 6.9  |           | E7                        | 3220                    | 22                      | 19         | 0.12         | 491                         | 6SVPC390M                |
|        | 820                  | 8.0                    | 11.9           | E12  | 4700      | 12                        | 10                      | 0.15                    | 1033       | 6SVPC820M    | 400                         |                          |
| 10     | 68                   | 5.0                    | 5.9            | B6   | 1970      | 30                        | 26                      | 0.12                    | 300        | 10SVPC68M    | 1500                        |                          |
|        |                      | 5.0                    | 5.9            |      | 2540      | 23                        | 20                      | 0.12                    | 300        | 10SVPC68MV   | 1500                        |                          |
|        | 120                  | 6.3                    | 5.9            | C6   | 2320      | 27                        | 23                      | 0.12                    | 300        | 10SVPC120M   | 1000                        |                          |
|        |                      | 6.3                    | 5.9            |      | 2600      | 22                        | 19                      | 0.12                    | 300        | 10SVPC120MV  | 1000                        |                          |
|        | 270                  | 8.0                    | 6.9            | E7   | 3220      | 22                        | 19                      | 0.12                    | 500        | 10SVPC270M   | 1000                        |                          |
| 330    | 8.0                  | 6.9                    | E7             | 3460 | 19        | 17                        | 0.12                    | 660                     | 10SVPC330M | 1000         |                             |                          |
| 16     | 39                   | 5.0                    |                | 5.9  | B6        | 1820                      | 35                      | 30                      | 0.12       | 300          | 16SVPC39M                   | 1500                     |
|        |                      | 5.0                    | 5.9            | 2350 |           | 27                        | 23                      | 0.12                    | 300        | 16SVPC39MV   | 1500                        |                          |
|        | 68                   | 6.3                    | 5.9            | C6   | 2200      | 30                        | 26                      | 0.12                    | 300        | 16SVPC68M    | 1000                        |                          |
|        |                      | 6.3                    | 5.9            |      | 2440      | 25                        | 22                      | 0.12                    | 300        | 16SVPC68MV   | 1000                        |                          |
|        | 100                  | 6.3                    | 5.9            | E7   | 2490      | 24                        | 23                      | 0.12                    | 300        | 16SVPC100M   | 1000                        |                          |
|        | 120                  | 8.0                    | 6.9            |      | 2900      | 27                        | 23                      | 0.12                    | 500        | 16SVPC120M   | 1000                        |                          |
|        | 150                  | 8.0                    | 6.9            |      | 3220      | 22                        | 21                      | 0.12                    | 500        | 16SVPC150M   | 1000                        |                          |
| 270    | 8.0                  | 11.9                   | E12            |      | 4070      | 16                        | 14                      | 0.15                    | 864        | 16SVPC270M   | 400                         |                          |
|        | 8.0                  | 11.9                   |                |      | 4070      | 16                        | 14                      | 0.15                    | 864        | 16SVPC270M   | 400                         |                          |

\*1 Ripple current (100 kHz/ +105 °C), \*2 tan δ (120 Hz/+20 °C) \*3 After 2 minutes

◆ Please refer to each page in this catalog for "Reflow conditions" and "Taping specifications".

## Frequency correction factor for ripple current

| Frequency   | 120 Hz ≤ f < 1 kHz | 1 kHz ≤ f < 10 kHz | 10 kHz ≤ f < 100 kHz | 100 kHz ≤ f < 500 kHz |
|-------------|--------------------|--------------------|----------------------|-----------------------|
| Coefficient | 0.05               | 0.3                | 0.7                  | 1                     |

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