

Surface mount type

# SVPE Series

RoHS directive/Halogen-free compliant  
 Super Low ESR (8mΩ~18mΩ)  
 Large capacitance(1,200μF)



## Specifications

| Items  | Condition                                     | Specifications                               |   |              |    |    |
|--|---|--|---|--------------|----|----|
|  |   | 2.0  | 2.5   | 6.3          | 10 | 16 |
| Rated voltage (V)  | —   | 2.0  | 2.5   | 6.3          | 10 | 16 |
| Surge voltage (V)  | Room temperature                              | 2.6  | 3.3   | 8.2          | 12 | 18 |
| Category temperature range(°C)                                 | —   | -55 to +105                                  |   |              |    |    |
| Capacitance tolerance (%)                                      | 120Hz/20°C                                    | M : ±20                                      |   |              |    |    |
| Dissipation Factor (DF)  | 120Hz/20°C                                    | Please see the attached characteristics list |   |              |    |    |
| Leakage current*1  | Rated voltage applied, after 2 minutes        | Please see the attached characteristics list |   |              |    |    |
| Equivalent series resistance (ESR)                             | 100kHz/20°C                                   | Please see the attached characteristics list |   |              |    |    |
| Characteristics of impedance ratio at high temp. and low temp. | Based the value at 100kHz, +20°C              | -55°C  | Z/Z <sub>20°C</sub>                                 | 0.75 to 1.25 |    |    |
|  |   | +105°C                                       | Z/Z <sub>20°C</sub>                                 | 0.75 to 1.25 |    |    |
| Endurance  | 105°C, 2,000h, Rated voltage applied          | ΔC/C   | Within ±20% of the initial value                    |              |    |    |
|  |   | DF   | Within 1.5 times of the initial limit               |              |    |    |
|  |   | ESR  | Within 1.5 times of the initial limit               |              |    |    |
|  |   | LC   | Within the initial limit                            |              |    |    |
| Damp heat(Steady state)  | 60°C, 90 to 95%RH, 1,000h, No-applied voltage | ΔC/C   | Within ±20% of the initial value                    |              |    |    |
|  |   | DF   | Within 1.5 times of the initial limit               |              |    |    |
|  |   | ESR  | Within 1.5 times of the initial limit               |              |    |    |
|  |   | LC   | Within the initial limit (after voltage processing) |              |    |    |
| Resistance to soldering heat*2                                 | VPS (230°C X 75s)                             | ΔC/C   | Within ±10% of the initial value (±15% for 2.5V)    |              |    |    |
|  |   | DF   | Within 1.3 times of the initial limit               |              |    |    |
|  |   | ESR  | Within 1.3 times of the initial limit               |              |    |    |
|  |   | LC   | Within the initial limit (after voltage processing) |              |    |    |

\*1 When measured values are questionable, measure after voltage processing mentioned below.

Voltage processing: Apply voltage for 120 minutes at 105°C.

\*2 Please refer to page 25 for reflow soldering conditions.

## Marking and dimensions

003 PE 390 2.5

Series (B6, C6, C10 size is PE, F12 size is SVPE)

(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    | 0.6~0.8 | 1.4    |
| C6        | 6.3     | 5.9                               | 6.6    | 6.6    | 7.3    | 0.6~0.8 | 2.1    |
| C10       | 6.3     | 9.9                               | 6.6    | 6.6    | 7.3    | 0.6~0.8 | 2.1    |
| F12       | 10.0    | 12.6                              | 10.3   | 10.3   | 11.0   | 0.8~1.1 | 4.6    |

## Size list

RV : Rated voltage

| μF   | RV  | 2.0 | 2.5   | 6.3   | 10 | 16  |
|------|-----|-----|-------|-------|----|-----|
| 150  |     |     |       | B6    |    |     |
| 180  |     |     |       | B6    |    | C10 |
| 220  |     |     |       | B6,C6 | C6 |     |
| 270  |     |     | B6    |       |    |     |
| 330  |     |     | B6    |       |    |     |
| 390  |     |     | B6,C6 |       |    |     |
| 470  |     |     |       |       |    | F12 |
| 1200 | C10 |     |       |       |    |     |

OS-CON Line-up

Guidelines and precautions

Series system diagram

Image of case size

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Catalog Deletion and EOL series

POSCAP Line-up

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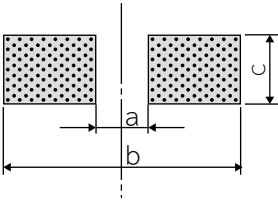
Catalog Deletion and EOL models

## SVPE series characteristics list

| Size code | Part number  | Rated voltage (V) | Rated capacitance ( $\mu$ F) | ESR( $m\Omega$ ) (max) |               | Rated ripple current 100kHz (mA <sub>rms</sub> ) at 105°C | DF (% max) | Leakage current ( $\mu$ A) (max) After 2 minutes |
|-----------|--------------|-------------------|------------------------------|------------------------|---------------|---|------------|--|
|           |              |                   |                              | 100kHz/20°C            | 300kHz/20°C※1 |   |            |  |
| B6        | 6SVPE150M    | 6.3               | 150                          | 12                     | 10            | 3520  | 12         | 500  |
|           | 6SVPE180M    | 6.3               | 180                          | 15                     | 13            | 3150  | 12         | 500  |
|           | 6SVPE220MW   | 6.3               | 220                          | 15                     | 13            | 3150  | 12         | 500  |
|           | 2R5SVPE270M  | 2.5               | 270                          | 10                     | 9             | 3860  | 12         | 500  |
|           | 2R5SVPE330M  | 2.5               | 330                          | 15                     | 13            | 3150  | 12         | 500  |
|           | 2R5SVPE330MY | 2.5               | 330                          | 10                     | 9             | 3860  | 12         | 500  |
|           | 2R5SVPE390MX | 2.5               | 390                          | 10                     | 9             | 3860  | 12         | 700  |
| C6        | 10SVPE220M   | 10                | 220                          | 20                     | 18            | 2700  | 12         | 500  |
|           | 6SVPE220M    | 6.3               | 220                          | 10                     | 9             | 3900  | 12         | 500  |
|           | 2R5SVPE390M  | 2.5               | 390                          | 10                     | 9             | 3900  | 12         | 500  |
| C10       | 16SVPE180M   | 16                | 180                          | 11                     | 10            | 4460  | 12         | 576  |
|           | 2SVPE1200M   | 2.0               | 1200                         | 8                      | 8             | 5230  | 12         | 500  |
| F12       | 16SVPE470M   | 16                | 470                          | 10                     | 9             | 6100  | 12         | 1504   |

※1 The ESR value in 300kHz is a reference one.

## Recommended land pattern dimension of PWB



| Size code | a   | b    | c   |
|-----------|-----|------|-----|
| B6        | 1.4 | 7.4  | 1.6 |
| C6        | 2.1 | 9.1  | 1.6 |
| C10       | 2.1 | 9.1  | 1.6 |
| F12       | 4.3 | 13.1 | 1.9 |

(unit : mm)

## Frequency coefficient for ripple current

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



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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