

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 _{20°C} | 0.75 to 1.25 | | |
| | | +105°C | Z/Z _{20°C} | 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 ^{+0.1} _{-0.4} | 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

Products list

Packing specifications (SMD type)

Packing specifications (Radial lead type)

Recommended soldering condition

Fundamental structure

Characteristics

Reliability

Selection guide

Technical data

Surface mount type

Radial lead type

Catalog Deletion and EOL series

POSCAP Line-up

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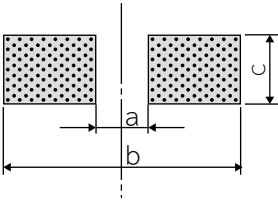
Catalog Deletion and EOL models

SVPE series characteristics list

| Size code | Part number | Rated voltage (V) | Rated capacitance (μ F) | ESR($m\Omega$) (max) | | Rated ripple current 100kHz (mA _{rms}) at 105°C | DF (% max) | Leakage current (μ 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



| (unit : mm) | | | |
|-------------|-----|------|-----|
| 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 |

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 |

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- Изготовление тестовой платы монтаж и пусконаладочные работы.



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