



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





## Specifications

| Items  | Condition                                     | Specifications                               |   |              |    |    |
|--|---|--|---|--------------|----|----|
|  |   | 4.0  | 6.3   | 10           | 16 | 20 |
| Rated voltage (V)  | —   | 4.0  | 6.3   | 10           | 16 | 20 |
| Surge voltage (V)  | Room temperature                              | 5.2  | 8.2   | 12           | 18 | 23 |
| Category temperature range (°C)                                | —   | -55 to +125                                  |   |              |    |    |
| 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 to 300kHz/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 |    |    |
|  |   | +125°C                                       | Z/Z <sub>20°C</sub>                                 | 0.75 to 1.25 |    |    |
| Endurance  | 125°C, 1,000h, Rated voltage applied          | ΔC/C   | Within ±20% of the initial value                    |              |    |    |
|  |   | DF   | Within 2 times of the initial limit                 |              |    |    |
|  |   | ESR  | Within 2 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                    |              |    |    |
|  |   | 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 In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 125°C.

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

## Marking and dimensions

Polarity marking (Cathode)

(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 |
|-----------|---------|-----------------------------------|--------|--------|--------|---------|--------|
| C6        | 6.3     | 5.9                               | 6.6    | 6.6    | 7.3    | 0.6~0.8 | 2.1    |
| E7        | 8.0     | 6.9                               | 8.3    | 8.3    | 9.0    | 0.6~0.8 | 3.2    |

## Size list

RV : Rated voltage

| μF \ RV | 4.0 | 6.3 | 10 | 16 | 20 |
|---------|-----|-----|----|----|----|
| 22      |     |     |    |    | C6 |
| 39      |     |     |    | C6 |    |
| 47      |     |     |    |    | E7 |
| 56      |     |     | C6 |    |    |
| 82      |     | C6  |    | E7 |    |
| 100     |     | C6  |    |    |    |
| 120     |     |     | E7 |    |    |
| 150     | C6  |     | E7 |    |    |
| 220     |     | E7  |    |    |    |

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

Surface mount type

Radial lead type

Catalog Deletion and EOL series

POSCAP Line-up

Guidelines and precautions

Selection guide

Technical data

Surface mount type

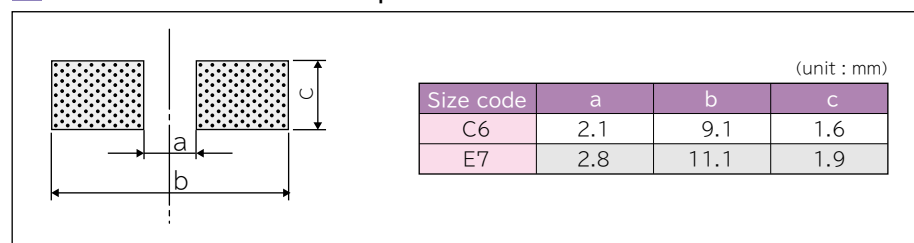
Catalog Deletion and EOL models

## SVQP series characteristics list

| Size code | Part number | Rated voltage (V) | Rated capacitance ( $\mu$ F) | ESR( $m\Omega$ ) (max)<br>100kHz to 300kHz/20°C | Rated ripple current | Allowable ripple current | DF (% max) | Leakage current ( $\mu$ A)(max)<br>After 2 minutes |
|-----------|-------------|-------------------|------------------------------|---|----------------------|--------------------------|------------|--|
|           |             |                   |                              |   | 100kHz (mArms)       |                          |            |  |
|           |             |                   |                              |   | 105°C<Tx≤125°C※1     | Tx≤105°C※1               |            |  |
| C6        | 20SVQP22M   | 20                | 22                           | 60  | 459                  | 1450                     | 10         | 220  |
|           | 16SVQP39M   | 16                | 39                           | 50  | 512                  | 1620                     | 10         | 312  |
|           | 10SVQP56M   | 10                | 56                           | 45  | 538                  | 1700                     | 12         | 280  |
|           | 6SVQP82M    | 6.3               | 82                           | 45  | 538                  | 1700                     | 12         | 258  |
|           | 6SVQP100M   | 6.3               | 100                          | 40  | 572                  | 1810                     | 12         | 315  |
|           | 4SVQP150M   | 4.0               | 150                          | 40  | 572                  | 1810                     | 12         | 300  |
| E7        | 20SVQP47M   | 20                | 47                           | 45  | 598                  | 1890                     | 12         | 470  |
|           | 16SVQP82M   | 16                | 82                           | 40  | 670                  | 2120                     | 12         | 656  |
|           | 10SVQP120M  | 10                | 120                          | 35  | 810                  | 2560                     | 12         | 600  |
|           | 10SVQP150M  | 10                | 150                          | 35  | 810                  | 2560                     | 12         | 750  |
|           | 6SVQP220M   | 6.3               | 220                          | 35  | 810                  | 2560                     | 12         | 693  |

※1 Tx: Ambient temperature

## Recommended land pattern dimension of PWB



## 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                   |