

SVQP Series


Guaranteed at 125°C

This series has advanced characteristics in resistance to heat compared with the SVP series. The SVQP series is best suited for devices that require enhanced reliability. This product can support lead free-reflow. ※2

 SVP
(Standard)

 SVQP
High reliability

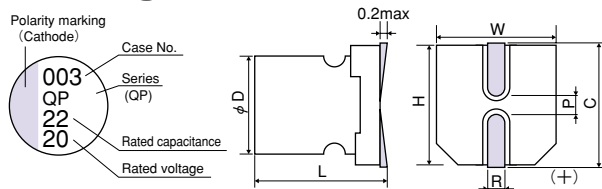
Specifications

Items	Condition	Specifications				
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 _{20°C}	0.75 to 1.25		
		+125°C	Z/Z _{20°C}	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 12 for reflow soldering conditions.

Marking and dimensions



(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
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

Size list

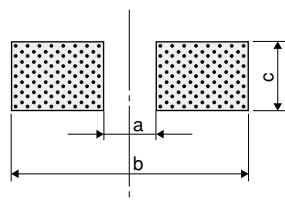
RV : Rated voltage

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			

SVQP series characteristics list

Size code	Part number	Rated voltage (V)	Rated capacitance (μ F)	ESR(m Ω) (max) 100kHz to 300kHz/20 $^{\circ}$ C	Rated ripple current	Allowable ripple current	DF (% max)	Leakage current (μ A)(max) After 2 minutes
					100kHz (mA _{rms}) ^{※1}			
					105 $^{\circ}$ C<T _x ≤125 $^{\circ}$ C	T _x ≤105 $^{\circ}$ C		
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 T_x : Ambient temperature

Recommended land pattern dimension of PWB


(unit : mm)

Size code	a	b	c
C6	2.1	9.1	1.6
E7	2.8	11.1	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