

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)



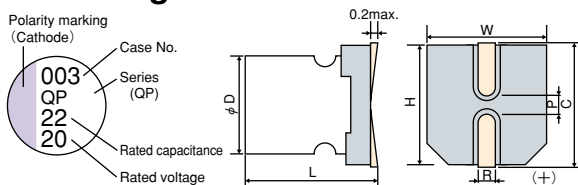
Specifications

Items	Conditions	Characteristics		
Category temperature range	—	-55°C to +125°C		
Tolerance on rated capacitance	120Hz	M : ±20%		
Tangent of loss angle	120Hz	Less than or equal to the value of Table7		
Leakage current ※1	After 2 minutes	Less than or equal to the value of Table7		
ESR	100KHz to 300KHz	Less than or equal to the value of Table7		
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%	
		tanδ	2 times or less than an initial standard	
		ESR	2 times or less than an initial standard	
		Leakage current	Below an initial standard	
Damp heat (Steady state)	60°C, 90 to 95%RH, 1,000h, No-applied voltage	ΔC/C	Within ±20%	
		tanδ	1.5 times or less than an initial standard	
		ESR	1.5 times or less than an initial standard	
		Leakage current	Below an initial standard (after voltage processing)	
Resistance to soldering heat ※2	VPS (230°C X 75s)	ΔC/C	Within ±10%	
		tanδ	1.3 times or less than an initial standard	
		ESR	1.3 times or less than an initial standard	
		Leakage current	Below an initial standard (after voltage processing)	

※1 In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 125°C.

※2 Refer to Page 14 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 (SV) : Surge voltage (Room temperature)

μF	RV (SV)	4 (5.2)	6.3 (8.2)	10 (12)	16 (18.4)	20 (23)
22						C6
39					C6	
47						E7
56				C6		
82			C6		E7	
100			C6			
120				E7		
150	C6			E7		
220			E7			

※For the minimum packing quantity, please refer to page 57.

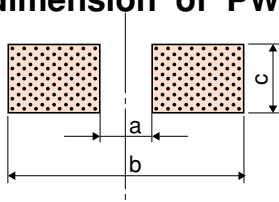
Table7 SVQP Series Characteristics List

Size Code	Part Number	Rated voltage (V)	Rated capacitance (μ F)	ESR 100kHz to 300kHz ($m\Omega$) (max.)	Rated ripple current	Allowable ripple current	Tangent of loss angle (max.)	Leakage current (μ A) (max.) ^{※1}
					100kHz (mA rms) ^{※2}			
					105°C < Tx \leq 125°C	Tx \leq 105°C		
C6	20SVQP22M	20	22	60	459	1450	0.10	220
	16SVQP39M	16	39	50	512	1620	0.10	312
	10SVQP56M	10	56	45	538	1700	0.12	280
	6SVQP82M	6.3	82	45	538	1700	0.12	258
	6SVQP100M	6.3	100	40	572	1810	0.12	315
	4SVQP150M	4	150	40	572	1810	0.12	300
E7	20SVQP47M	20	47	45	598	1890	0.12	470
	16SVQP82M	16	82	40	670	2120	0.12	656
	10SVQP120M	10	120	35	810	2560	0.12	600
	10SVQP150M	10	150	35	810	2560	0.12	750
	6SVQP220M	6.3	220	35	810	2560	0.12	693

※1 After 2 minutes

※2 Tx : Ambient temperature

SVQP

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 \leq f < 1kHz	1kHz \leq f < 10kHz	10kHz \leq f < 100kHz	100kHz \leq f \leq 500kHz
Coefficient	0.05	0.3	0.7	1