

VQ series 125°C High Temperature



- SMD Type, High reliability, High temperature
- Load life of 2000 hours at 125°C
- Compliant to the RoHS2.0 directive
- Suitable for High reliability requirement of Electronic Equipment.

具有优异的热稳定性,可承受 125°C环境温度,产品满足 RoHS2.0 指令,适合用于提高电子设备的可靠度。

◇ Specifications

Items	Characteristics	
Operating Temp. Range	-55°C ~ +125°C	
Capacitance Range	10 ~ 2200µF	
Capacitance Tolerance	M : ±20%	
Rated Voltage Range	2.5V ~ 100V DC	
Dissipation Factor	Not to exceed the value specified	
Leakage Current	Not to exceed the value specified (after 2 minutes)	
ESR (100K~300KHz)	Not to exceed the value specified	
Endurance 125°C · 2000h · at rated voltage	Capacitance Change	Within ±20% of the value before test
	Dissipation Factor	Not to exceed 150% of the value specified
	ESR	Not to exceed 150% of the value specified
	Leakage current	Not to exceed the value specified
Moisture Resistance Stored at 60°C · RH90 ~ 95% · 1000h	Capacitance Change	Within ±20% of the value before test
	Dissipation Factor	Not to exceed 150% of the value specified
	ESR	Not to exceed 150% of the value specified
	Leakage Current	Not to exceed the value specified
Resistance to Soldering Heat After the recommended soldering conditions	Capacitance Change	Within ±5% of the value before test
	Dissipation Factor	Not to exceed the value specified
	ESR	Not to exceed the value specified
	Leakage Current	Not to exceed the value specified (Charging treatment)

※When there is any doubt, measure after charging treatment below.

Charging treatment: at 125 °C, Rated voltage is loaded for 60 minutes continuously.

ΦD+0.5max.	6.3			8			10	
L±0.3	5.8	7.7	9	9.2	10.5	12.2	10.5	12.7
W±0.2	6.6			8.3			10.3	
H±0.2	6.8			8.3			10.3	
C±0.2	7.2			9.0			11.0	
P±0.2	2.1			3.2			4.6	
R	0.5 ~ 0.8			0.8 ~ 1.1			0.8 ~ 1.1	
T1, T2	0.2Max			0.2Max			0.2Max	

Recommended land pattern

ΦD	6.3	8	10
a	2.1	2.8	4.3
b	3.5	4.2	4.4
c	1.8	1.9	1.9

✧ Capacitance List

SIZE \ W.V.(S.V)	2.5 (2.9)	6.3 (7.2)	10 (12)	16 (18)	25 (29)
6.3×5.8	390 ~ 560μF	220 ~ 390μF	150 ~ 220μF	100 ~ 180μF	68 ~ 100μF
6.3×7.7	560 ~ 820μF	390 ~ 560μF	220 ~ 330μF	180 ~ 270μF	100 ~ 150μF
6.3×9	680 ~ 1000μF	470 ~ 680μF	270 ~ 470μF	220 ~ 330μF	120 ~ 180μF
8×9.2	1000 ~ 1500μF	560 ~ 1200μF	390 ~ 680μF	270 ~ 560μF	180 ~ 330μF
8×10.5	1200 ~ 1800μF	820 ~ 1500μF	470 ~ 1000μF	390 ~ 680μF	220 ~ 390μF
8×12.2	1500 ~ 2200μF	820 ~ 1500μF	560 ~ 1000μF	390 ~ 820μF	270 ~ 470μF
10×10.5		1000 ~ 1800μF	560 ~ 1000μF	470 ~ 820μF	270 ~ 470μF
10×12.7		1200 ~ 2200μF	820 ~ 1500μF	680 ~ 1000μF	330 ~ 680μF

SIZE \ W.V.(S.V)	35 (41)	50 (58)	63 (72)	80 (92)	100 (115)
6.3×5.8	27 ~ 47μF				
6.3×7.7	47 ~ 68μF				
6.3×9	56 ~ 82μF				
8×9.2	82 ~ 120μF	39 ~ 68μF	27 ~ 47μF	15 ~ 27μF	10 ~ 18μF
8×10.5	100 ~ 180μF	47 ~ 100μF	33 ~ 56μF	18 ~ 33μF	12 ~ 22μF
8×12.2	100 ~ 180μF	56 ~ 100μF	39 ~ 68μF	22 ~ 39μF	15 ~ 22μF
10×10.5	120 ~ 220μF	68 ~ 120μF	47 ~ 82μF	27 ~ 47μF	18 ~ 33μF
10×12.7	180 ~ 330μF	82 ~ 180μF	68 ~ 120μF	33 ~ 68μF	22 ~ 47μF

✧ Characteristics List

W.V. (V)	Capacitance (μF)	L.C. (μA,2min)	tgδ (120Hz,20℃)	ESR (mΩ,100kHz)	Rated Ripple Current(mA,r.m.s)		Size ΦD×L(mm)	Part Number
					105℃<T _x ≤125℃	T _x ≤105℃		
2.5	560	140	0.08	12	1220	3800	6.3×5.8	PVQ561M2R5E58TR□□□
	820	205	0.08	9	1450	4500	6.3×7.7	PVQ821M2R5E77TR□□□
	1000	250	0.08	7	1740	5400	6.3×9	PVQ102M2R5E09TR□□□
	1200	300	0.08	7	1810	5600	8×9.2	PVQ122M2R5F92TR□□□
	1500	375	0.08	7	1870	5800	8×10.5	PVQ152M2R5F1ETR□□□
	1800	450	0.08	7	1970	6100	8×12.2	PVQ182M2R5F1CTR□□□
6.3	330	207.9	0.08	15	1160	3600	6.3×5.8	PVQ331M6R3E58TR□□□
	470	296.1	0.08	12	1320	4100	6.3×7.7	PVQ471M6R3E77TR□□□
	560	352.8	0.08	9	1480	4600	6.3×9	PVQ561M6R3E09TR□□□
	820	516.6	0.08	8	1700	5300	8×9.2	PVQ821M6R3F92TR□□□
	1000	630	0.08	8	1740	5400	8×10.5	PVQ102M6R3F1ETR□□□
	1200	756	0.08	8	1780	5500	8×12.2	PVQ122M6R3F1CTR□□□
	1500	945	0.08	8	1930	5600	10×10.5	PVQ152M6R3G1ETR□□□
	2200	1000	0.10	8	2060	6000	10×12.7	PVQ222M6R3G1DTR□□□
10	220	220	0.08	15	1090	3400	6.3×5.8	PVQ221M010E58TR□□□
	330	330	0.08	15	1190	3700	6.3×7.7	PVQ331M010E77TR□□□
	470	470	0.08	9	1450	4500	6.3×9	PVQ471M010E09TR□□□
	680	680	0.08	8	1670	5200	8×9.2	PVQ681M010F92TR□□□
	820	820	0.08	8	1710	5300	8×10.5	PVQ821M010F1ETR□□□
	1000	1000	0.08	8	1740	5400	8×12.2	PVQ102M010F1CTR□□□
	1000	1000	0.08	8	1780	5500	10×10.5	PVQ102M010G1ETR□□□
	1500	1000	0.08	8	2030	5900	10×12.7	PVQ152M010G1DTR□□□
16	100	160	0.10	25	780	2400	6.3×5.8	PVQ101M016E58TR□□□

W.V. (V)	Capacitance (μ F)	L.C. (μ A,2min)	tg δ (120Hz,20 $^{\circ}$ C)	ESR (m Ω ,100kHz)	Rated Ripple Current(mA,r.m.s)		Size Φ D \times L(mm)	Part Number
					105 $^{\circ}$ C<T \leq 125 $^{\circ}$ C	T \leq 105 $^{\circ}$ C		
16	220	352	0.10	15	1000	3100	6.3 \times 7.7	PVQ221M016E77TR \square \square \square
	270	432	0.10	15	1100	3400	6.3 \times 9	PVQ271M016E09TR \square \square \square
	330	528	0.10	12	1320	4100	8 \times 9.2	PVQ331M016F92TR \square \square \square \square
	470	752	0.10	12	1450	4500	8 \times 10.5	PVQ471M016F1ETR \square \square \square
	560	896	0.10	12	1550	4800	8 \times 12.2	PVQ561M016F1CTR \square \square \square
	680	1000	0.10	12	1640	5100	10 \times 10.5	PVQ681M016G1ETR \square \square \square
	1000	1000	0.10	10	1860	5400	10 \times 12.7	PVQ102M016G1DTR \square \square \square
25	82	205	0.10	28	720	2100	6.3 \times 5.8	PVQ820M025E58TR \square \square \square
	100	250	0.10	20	900	2800	6.3 \times 7.7	PVQ101M025E77TR \square \square \square
	150	375	0.10	20	1000	3100	6.3 \times 9	PVQ151M025E09TR \square \square \square
	220	550	0.10	15	1220	3800	8 \times 9.2	PVQ221M025F92TR \square \square \square \square
	330	825	0.10	15	1350	4200	8 \times 10.5	PVQ331M025F1ETR \square \square \square
	390	975	0.10	15	1450	4500	8 \times 12.2	PVQ391M025F1CTR \square \square \square
	470	1000	0.10	15	1550	4800	10 \times 10.5	PVQ471M025G1ETR \square \square \square
35	560	1000	0.10	12	1760	5100	10 \times 12.7	PVQ561M025G1DTR \square \square \square
	47	100	0.10	35	690	2000	6.3 \times 5.8	PVQ470M035E58TR \square \square \square
	56	100	0.10	30	710	2200	6.3 \times 7.7	PVQ560M035E77TR \square \square \square
	82	143.5	0.10	30	725	2250	6.3 \times 9	PVQ820M035E09TR \square \square \square
	100	175	0.10	22	900	2800	8 \times 9.2	PVQ101M035F92TR \square \square \square \square
	150	262.5	0.10	20	940	2900	8 \times 10.5	PVQ151M035F1ETR \square \square \square
	180	300	0.10	20	970	3000	8 \times 12.2	PVQ181M035F1CTR \square \square \square
50	220	300	0.10	20	1000	3100	10 \times 10.5	PVQ221M035G1ETR \square \square \square
	330	300	0.10	20	1100	3200	10 \times 12.7	PVQ331M035G1DTR \square \square \square
	56	140	0.10	22	840	2600	8 \times 9.2	PVQ560M050F92TR \square \square \square \square
	82	205	0.10	20	870	2700	8 \times 10.5	PVQ820M050F1ETR \square \square \square
	100	250	0.10	20	900	2800	8 \times 12.2	PVQ101M050F1CTR \square \square \square
	120	300	0.10	20	940	2900	10 \times 10.5	PVQ121M050G1ETR \square \square \square
	150	300	0.10	20	1030	3000	10 \times 12.7	PVQ151M050G1DTR \square \square \square
63	47	148	0.10	22	840	2600	8 \times 9.2	PVQ470M063F92TR \square \square \square \square
	56	176	0.10	20	870	2700	8 \times 10.5	PVQ560M063F1ETR \square \square \square
	68	215	0.10	20	900	2800	8 \times 12.2	PVQ680M063F1CTR \square \square \square
	82	258	0.10	20	940	2900	10 \times 10.5	PVQ820M063G1ETR \square \square \square
	100	315	0.10	20	1030	3000	10 \times 12.7	PVQ101M063G1DTR \square \square \square
80	22	100	0.10	25	770	2400	8 \times 9.2	PVQ220M080F92TR \square \square \square \square
	33	132	0.10	22	810	2500	8 \times 10.5	PVQ330M080F1ETR \square \square \square
	39	156	0.10	22	840	2600	8 \times 12.2	PVQ390M080F1CTR \square \square \square
	47	188	0.10	22	870	2700	10 \times 10.5	PVQ470M080G1ETR \square \square \square
	56	224	0.10	22	970	2800	10 \times 12.7	PVQ560M080G1DTR \square \square \square
100	10	100	0.10	25	710	2200	8 \times 9.2	PVQ100M100F92TR \square \square \square \square
	12	100	0.10	22	740	2300	8 \times 10.5	PVQ120M100F1ETR \square \square \square
	22	110	0.10	22	770	2400	8 \times 12.2	PVQ220M100F1CTR \square \square \square
	33	165	0.10	22	810	2500	10 \times 10.5	PVQ330M100G1ETR \square \square \square
	47	235	0.10	22	900	2600	10 \times 12.7	PVQ470M100G1DTR \square \square \square

* For the last 4 digits of the part number, please refer to the part number system on page 125. □

✧ **Frequency Coefficient for Ripple Current**

Frequency	120Hz \leq freq.<1KHz	1KHz \leq freq.<10KHz	10KHz \leq freq.<50KHz	50KHz \leq freq.<100KHz	100KHz \leq freq.<300KHz
Coefficient (C \leq 1000 μ F)	0.05	0.3	0.7	0.85	1
Coefficient (C>1000 μ F)	0.1	0.33	0.85	1	1