

VF series Long life to 5000hours



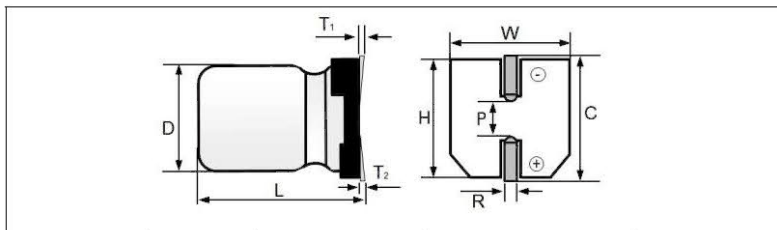
- SMD Type, Low ESR, High ripple current
 - Load life of 5000 hours at 105°C
 - Compliant to the RoHS2.0 directive
- 低 ESR 和超大纹波电流贴片固态产品, 产品满足 RoHS2.0 指令。

◇ Specifications

Items	Characteristics	
Operating Temp. Range	-55°C~+105°C	
Capacitance Range	10~4700μF	
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 105°C , 5000h , 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)

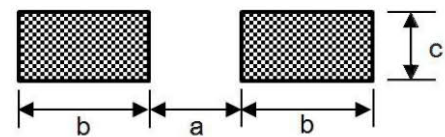
※When there is any doubt, measure after charging treatment below.
Charging treatment: at 105 °C, Rated voltage is loaded for 120 minutes continuously.

◇ Dimensions (Unit:mm)



ΦD+0.5max.	5		6.3		8			10	
L±0.3	5.8	5.8	7.7	9	9.2	10.5	12.2	10.5	12.7
W±0.2	5.3		6.6		8.3			10.3	
H±0.2	5.3		6.6		8.3			10.3	
C±0.2	5.9		7.2		9.0			11.0	
P±0.2	1.4		2.1		3.2			4.6	
R	0.5~0.8		0.5~0.8		0.8~1.1			0.8~1.1	
T1, T2	0.2Max		0.2Max		0.2Max			0.2Max	

Recommended land pattern



ΦD	5	6.3	8	10
a	1.4	2.1	2.8	4.3
b	3.0	3.5	4.2	4.4
c	1.6	1.6	1.9	1.9



✦ Capacitance List

W.V (S.V) SIZE	2.5 (2.9)	6.3 (7.2)	10 (12)	16 (18)	25 (29)
5×5.8	220 ~ 390μF	120 ~ 180μF	82 ~ 120μF	56 ~ 82μF	39 ~ 56μF
6.3×5.8	390 ~ 560μF	270 ~ 390μF	180 ~ 270μF	100 ~ 180μF	68 ~ 100μF
6.3×7.7	680 ~ 1000μF	330 ~ 560μF	270 ~ 390μF	180 ~ 270μF	100 ~ 150μF
6.3×9	820 ~ 1200μF	470 ~ 680μF	330 ~ 470μF	220 ~ 330μF	120 ~ 180μF
8×9.2	1000 ~ 2200μF	560 ~ 1200μF	470 ~ 820μF	270 ~ 560μF	180 ~ 330μF
8×10.5	1200 ~ 2700μF	820 ~ 1500μF	560 ~ 1000μF	390 ~ 680μF	220 ~ 390μF
8×12.2	1500 ~ 2700μF	820 ~ 1500μF	680 ~ 1200μF	390 ~ 820μF	270 ~ 470μF
10×10.5	1500 ~ 3300μF	1000 ~ 1800μF	680 ~ 1200μF	470 ~ 820μF	270 ~ 470μF
10×12.7	2200 ~ 4700μF	1200 ~ 2200μF	1000 ~ 1800μF	680 ~ 1200μF	390 ~ 680μF

W.V (S.V) SIZE	35 (40)	50 (58)	63 (72)	80 (92)	100 (115)
6.3×5.8	47 ~ 68μF				
6.3×7.7	68 ~ 100μF				
6.3×9	82 ~ 120μF				
8×9.2	100 ~ 220μF	39 ~ 56μF	27 ~ 47μF	15 ~ 27μF	10 ~ 18μF
8×10.5	150 ~ 270μF	47 ~ 82μF	33 ~ 56μF	18 ~ 33μF	12 ~ 22μF
8×12.2	150 ~ 270μF	56 ~ 82μF	39 ~ 56μF	22 ~ 33μF	15 ~ 22μF
10×10.5	180 ~ 330μF	68 ~ 120μF	47 ~ 82μF	27 ~ 47μF	18 ~ 27μF
10×12.7	220 ~ 470μF	82 ~ 150μF	56 ~ 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
2.5	390	100	0.08	16	3200	5×5.8	PVF391M2R5C58TR□□□□
	560	140	0.08	12	3800	6.3×5.8	PVF561M2R5E58TR□□□□
	820	205	0.08	9	4500	6.3×7.7	PVF821M2R5E77TR□□□□
	1000	250	0.08	7	5400	6.3×9	PVF102M2R5E09TR□□□□
	1200	300	0.08	7	5600	8×9.2	PVF122M2R5F92TR□□□□
	1500	375	0.08	7	5800	8×10.5	PVF152M2R5F1ETR□□□□
	2200	550	0.08	7	6100	8×12.2	PVF222M2R5F1CTR□□□□
	3300	825	0.08	7	6100	10×10.5	PVF332M2R5G1ETR□□□□
	4700	1000	0.08	7	6400	10×12.7	PVF472M2R5G1DTR□□□□
6.3	150	100	0.08	20	2900	5×5.8	PVF151M6R3C58TR□□□□
	330	207.9	0.08	15	3500	6.3×5.8	PVF331M6R3E58TR□□□□
	470	296.1	0.08	12	4100	6.3×7.7	PVF471M6R3E77TR□□□□
	560	352.8	0.08	8	4600	6.3×9	PVF561M6R3E09TR□□□□
	820	516.6	0.08	8	5300	8×9.2	PVF821M6R3F92TR□□□□
	1000	630	0.08	8	5400	8×10.5	PVF102M6R3F1ETR□□□□
	1200	756	0.08	8	5500	8×12.2	PVF122M6R3F1CTR□□□□
	1500	945	0.08	8	5600	10×10.5	PVF152M6R3G1ETR□□□□
	2200	1000	0.08	8	6000	10×12.7	PVF222M6R3G1DTR□□□□
10	100	100	0.08	20	2800	5×5.8	PVF101M010C58TR□□□□
	220	220	0.08	15	3400	6.3×5.8	PVF221M010E58TR□□□□
	330	330	0.08	15	3700	6.3×7.7	PVF331M010E77TR□□□□

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
10	470	470	0.08	9	4500	6.3 \times 9	PVF471M010E09TR \square \square \square \square
	680	680	0.08	8	5200	8 \times 9.2	PVF681M010F92TR \square \square \square \square
	820	820	0.08	8	5300	8 \times 10.5	PVF821M010F1ETR \square \square \square \square
	1000	1000	0.08	8	5400	8 \times 12.2	PVF102M010F1CTR \square \square \square \square
	1200	1000	0.08	8	5500	10 \times 10.5	PVF122M010G1ETR \square \square \square \square
	1500	1000	0.08	8	5900	10 \times 12.7	PVF152M010G1DTR \square \square \square \square
16	56	100	0.10	30	1700	5 \times 5.8	PVF560M016C58TR \square \square \square \square
	100	160	0.10	25	2400	6.3 \times 5.8	PVF101M016E58TR \square \square \square \square
	220	352	0.10	15	3100	6.3 \times 7.7	PVF221M016E77TR \square \square \square \square
	270	432	0.10	15	3400	6.3 \times 9	PVF271M016E09TR \square \square \square \square
	330	528	0.10	12	4100	8 \times 9.2	PVF331M016F92TR \square \square \square \square
	560	896	0.10	12	4500	8 \times 10.5	PVF561M016F1ETR \square \square \square \square
	680	1000	0.10	12	4800	8 \times 12.2	PVF681M016F1CTR \square \square \square \square
	820	1000	0.10	12	5100	10 \times 10.5	PVF821M016G1ETR \square \square \square \square
25	1000	1000	0.10	10	5400	10 \times 12.7	PVF102M016G1DTR \square \square \square \square
	39	100	0.10	40	1400	5 \times 5.8	PVF390M025C58TR \square \square \square \square
	100	250	0.10	28	2100	6.3 \times 5.8	PVF101M025E58TR \square \square \square \square
	150	375	0.10	20	2800	6.3 \times 7.7	PVF151M025E77TR \square \square \square \square
	180	450	0.10	20	3100	6.3 \times 9	PVF181M025E09TR \square \square \square \square
	220	550	0.10	15	3800	8 \times 9.2	PVF221M025F92TR \square \square \square \square
	330	825	0.10	15	4200	8 \times 10.5	PVF331M025F1ETR \square \square \square \square
	390	975	0.10	15	4500	8 \times 12.2	PVF391M025F1CTR \square \square \square \square
35	470	1000	0.10	15	4800	10 \times 10.5	PVF471M025G1ETR \square \square \square \square
	560	1000	0.10	12	5100	10 \times 12.7	PVF561M025G1DTR \square \square \square \square
	56	100	0.10	35	2000	6.3 \times 5.8	PVF560M035E58TR \square \square \square \square
	82	143.5	0.10	30	2200	6.3 \times 7.7	PVF820M035E77TR \square \square \square \square
	100	175	0.10	30	2250	6.3 \times 9	PVF101M035E09TR \square \square \square \square
	150	262.5	0.10	22	2800	8 \times 9.2	PVF151M035F92TR \square \square \square \square
	220	300	0.10	20	2900	8 \times 10.5	PVF221M035F1ETR \square \square \square \square
	270	300	0.10	20	3000	8 \times 12.2	PVF271M035F1CTR \square \square \square \square
50	330	300	0.10	22	3000	10 \times 10.5	PVF331M035G1ETR \square \square \square \square
	470	300	0.10	20	3200	10 \times 12.7	PVF471M035G1DTR \square \square \square \square
	47	117.5	0.10	22	2600	8 \times 9.2	PVF470M050F92TR \square \square \square \square
	56	140	0.10	20	2700	8 \times 10.5	PVF560M050F1ETR \square \square \square \square
	82	205	0.10	20	2800	8 \times 12.2	PVF820M050F1CTR \square \square \square \square
63	100	250	0.10	22	2800	10 \times 10.5	PVF101M050G1ETR \square \square \square \square
	150	300	0.10	20	3000	10 \times 12.7	PVF151M050G1DTR \square \square \square \square
	33	104	0.10	22	2600	8 \times 9.2	PVF330M063F92TR \square \square \square \square
	47	148	0.10	20	2700	8 \times 10.5	PVF470M063F1ETR \square \square \square \square
	56	176.4	0.10	20	2800	8 \times 12.2	PVF560M063F1CTR \square \square \square \square
80	82	258.3	0.10	22	2800	10 \times 10.5	PVF820M063G1ETR \square \square \square \square
	100	300	0.10	20	3000	10 \times 12.7	PVF101M063G1DTR \square \square \square \square
	22	100	0.10	25	2400	8 \times 9.2	PVF220M080F92TR \square \square \square \square
	27	108	0.10	22	2500	8 \times 10.5	PVF270M080F1ETR \square \square \square \square
	33	132	0.10	22	2600	8 \times 12.2	PVF330M080F1CTR \square \square \square \square
100	47	188	0.10	25	2600	10 \times 10.5	PVF470M080G1ETR \square \square \square \square
	56	224	0.10	22	2800	10 \times 12.7	PVF560M080G1DTR \square \square \square \square
	10	100	0.10	25	2200	8 \times 9.2	PVF100M100F92TR \square \square \square \square
	15	100	0.10	22	2300	8 \times 10.5	PVF150M100F1ETR \square \square \square \square
	22	110	0.10	22	2400	8 \times 12.2	PVF220M100F1CTR \square \square \square \square
100	27	135	0.10	25	2400	10 \times 10.5	PVF270M100G1ETR \square \square \square \square
	47	235	0.10	22	2600	10 \times 12.7	PVF470M100G1DTR \square \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≤freq.<1KHz	1KHz≤freq.<10KHz	10KHz≤freq.<50KHz	50KHz≤freq.<100KHz	100KHz≤freq.<300KHz
Coefficient (C≤1000μF)	0.05	0.3	0.7	0.85	1
Coefficient (3000μF≥C>1000μF)	0.1	0.33	0.85	1	1
Coefficient (C>3000μF)	0.12	0.35	1	1	1