PV Radial Lead Type, Long Life Assurance Series

- High voltage(to 100V),Low ESR, High ripplecurrent.
- Long life of 3000 hours at105℃.
- Radial lead type: lead free flow soldering condition correspondence.
- RoHS Compliance(2011/65/EU)

■ SPECIFICATIONS

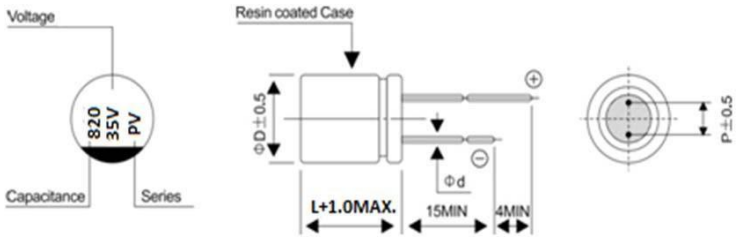
Items	Performance Characteristics		
Category Temperature Range	-55 ~ +105℃		
Rated Voltage Range	16 ~100V		
Rated Capacitance Range	6.8 ~ 470μF		
Capacitance Tolerance	± 20 % (at 120Hz , 20℃)		
Tangent of Loss Angle (tan δ)	Less than or equal to the specified value at 120Hz, 20℃		
ESR(※1)	Less than or equal to the specified value at 100KHz, 20℃		
Leakage Current(※2)	Less than or equal to the specified value. After 2 minutes' application of rated voltage at 20℃		
Temperature Characteristics (Max. Impedance Ratio)	Z+105℃ / Z+20℃ ≤1.25 (100kHz) Z- 55℃ / Z+20℃ ≤1.25		
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20 ℃ after the rated voltage is applied for 3000hours at 105 ℃	Capacitance change	Within ±20% of the initial capacitance value(※3)
		tan δ	150% or less than the initial specified value
		ESR(※1)	150% or less than the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Damp Heat (Steady State)	The specifications listed at right shall be met when the capacitors are restored to 20 ℃ after the rated voltage is applied for 1000 hours at 60 ℃, 90% RH.	Capacitance change	Within ±20% of the initial capacitance value(※3)
		tan δ	150% or less than the initial specified value
		ESR(※1)	150% or less than the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Resistance to Soldering Heat	After soldering the capacitor under the soldering conditions prescribed here as preheat at 150 to 200℃ for 60 to 180 seconds and peak temperature at 265℃ for 10 seconds or less,the capacitor shall meet the specifications listed at right, provided that its temperature profile is measured at both of terminal ends facing the soldering side.	Capacitance change	Within ±10% of the initial capacitance value(※3)
		tan δ	130% or less than the initial specified value
		ESR(※1)	130% or less than the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Marking	Red print on the case top		

※1 ESR should be measured at both of the terminal ends closest to the capacitor body.

※2 Conditioning: If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105 ℃

※3 Initial value: The value before test of examination of resistance to soldering.

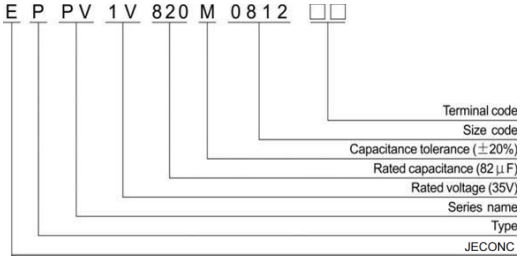
■ Dimensions



Φ x L(mm)

Size	5x8	6.3x6	6.3x8/9	6.3x12	8x8/9	8x11/12	10x12/13	10x16/21
ΦD	5.0	6.3	6.3	6.3	8.0	8.0	10.0	10.0
L	8	6	8/9	12	8/9	11/12	12/13	16/21
P	2.0	2.5	2.5	2.5	3.5	3.5	5.0	5.0
Φd	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6

Type numbering system(Exp: 35V 82μF)



Voltage

V	16	20	25	35	50	63	80	100
Code	1C	1D	1E	1V	1H	1J	1K	2A

PV Series

■ STANDARD RATINGS

Rated voltage (V)(code)	Surge Voltage (V)	Rated Capacitance (μF)	Case Size ΦD x L(mm)	tan δ	Leakage Current (μA)	ESR(mΩ) (at 100kHz 20℃)	Rated Ripple (mArms)	Part Number
16 (1C)	18.4	220	8x9	0.12	352	26	2100	EPPV1C221M0809
		270	8x12	0.12	432	24	2500	EPPV1C271M0812
		470	10x13	0.12	752	23	2900	EPPV1C471M1013
		680	10x13	0.12	1088	23	2900	EPPV1C681M1013
		2200	10x21	0.12	3520	14	4800	EPPV1C222M1021
20 (1D)	23	150	8x9	0.12	300	27	2000	EPPV1D151M0809
		220	8x12	0.12	440	25	2400	EPPV1D221M0812
		330	10x13	0.12	660	24	2800	EPPV1D331M1013
25 (1E)	28.7	47	5x8	0.12	118	49	1300	EPPV1E470M0508
		47	6.3x6	0.12	118	49	1300	EPPV1E470M6306
		47	6.3x7	0.12	118	25	2850	EPPV1E470M6307
		100	6.3x6	0.12	250	20	3500	EPPV1E101M6306
		100	8x8	0.12	250	20	3500	EPPV1E101M0808
		100	10x12	0.12	250	20	4800	EPPV1E101M1012
		120	8x9	0.12	300	28	2000	EPPV1E121M0809
		150	6.3x9	0.12	375	23	3300	EPPV1E151M6309
		150	8x12	0.12	375	26	2400	EPPV1E151M0812
		220	5.5x9	0.12	550	28	2300	EPPV1E221M5509
		220	6.3x8	0.12	550	27	2300	EPPV1E221M6308
		220	6.3x12	0.12	550	27	2300	EPPV1E221M6312
		220	8x8	0.12	550	22	2400	EPPV1E221M0808
		220	8x11	0.12	550	22	2600	EPPV1E221M0811
		270	6.3x11	0.12	675	27	2300	EPPV1E271M6311
		270	6.3x12	0.12	675	27	2300	EPPV1E271M6312
		270	10x12	0.12	675	18	5100	EPPV1E271M1012
		270	10x13	0.12	675	25	2800	EPPV1E271M1013
		330	6.3x12	0.12	825	27	2300	EPPV1E331M6312
		330	10x10	0.12	825	22	3100	EPPV1E331M1010
		330	10x12	0.12	825	22	3300	EPPV1E331M1012
		390	6.3x12	0.12	975	27	2800	EPPV1E391M6312
		470	6.3x14	0.12	1175	25	3100	EPPV1E471M6314
		470	8x12	0.12	1175	20	3300	EPPV1E471M0812
		470	10x12	0.12	1175	20	3300	EPPV1E471M1012
		560	8x12	0.12	1400	15	3400	EPPV1E561M0812
		680	8x12	0.12	1700	15	3700	EPPV1E681M0812
		680	8x16	0.12	1700	15	3900	EPPV1E681M0816
		680	10x12	0.12	1700	10	6500	EPPV1E681M1012
		680	10x13	0.12	1700	15	3900	EPPV1E681M1013
		820	8x12	0.12	2050	25	4000	EPPV1E821M0816
		820	10x13	0.12	2050	25	4000	EPPV1E821M1013
		1000	8x16	0.12	2500	25	4500	EPPV1E102M0816
		1000	10x12.5	0.12	2500	25	4500	EPPV1E102M1012
		1000	10x16	0.12	2500	25	4500	EPPV1E102M1016
35 (1V)	40.2	10	5x8	0.12	35	65	1000	EPPV1V100M0508
		47	5x8	0.12	165	55	1700	EPPV1V470M0508
		47	6.3x6	0.12	165	35	1800	EPPV1V470M6306
		56	8x9	0.12	196	29	1900	EPPV1V560M0809
		68	5x9	0.12	238	48	1800	EPPV1V680M0509
		82	8x12	0.12	287	27	2300	EPPV1V820M0812
		100	6.3x8	0.12	350	28	2500	EPPV1V101M6308
		100	8x8	0.12	350	26	2500	EPPV1V101M0808
		150	8x8	0.12	525	26	2700	EPPV1V151M0808
		150	10x13	0.12	525	26	2700	EPPV1V151M1013
		220	6.3x12	0.12	770	16	2800	EPPV1V221M6312
		220	8x11	0.12	770	16	2800	EPPV1V221M0811
		220	8x12	0.12	770	16	2800	EPPV1V221M0812
		330	8x12	0.12	1155	16	3300	EPPV1V331M0812
		330	10x12	0.12	1155	20	3600	EPPV1V331M1012
		470	10x10	0.12	1645	20	3600	EPPV1V471M1010
		470	10x12	0.12	1645	20	3600	EPPV1V471M1012
		680	10x13	0.12	2380	16	4200	EPPV1V681M1013
		680	10x16	0.12	2380	16	4200	EPPV1V681M1016
		1000	10x21	0.12	3500	16	4700	EPPV1V102M1021

50 (1H)	57.5	33	8x8	0.12	165	32	1900	EPPV1H330M0808
		33	8x9	0.12	165	32	1900	EPPV1H330M0809
		39	8x12	0.12	195	29	2200	EPPV1H390M0812
		47	8x8	0.12	235	32	1900	EPPV1H470M0808
		68	10x13	0.12	340	28	2600	EPPV1H680M1013
		220	10x12	0.12	1100	22	3500	EPPV1H221M1012
63 (1J)	72.4	22	8x9	0.12	139	35	1800	EPPV1J220M0809
		27	8x12	0.12	170	33	2100	EPPV1J270M0812
		47	10x13	0.12	296	29	2600	EPPV1J470M1013
		56	10x12	0.12	352	29	2600	EPPV1J560M1012
		180	10x12	0.12	1134	27	3400	EPPV1J181M1012
		330	10x21	0.12	2079	20	4600	EPPV1J331M1021
80 (1K)	92	10	8x9	0.12	80	40	1700	EPPV1K100M0809
		12	8x12	0.12	96	38	1900	EPPV1K120M0812
		22	10x13	0.12	176	35	2300	EPPV1K220M1013
100 (2A)	115	6.8	8x9	0.12	68	45	1600	EPPV2A6R8M0809
		10	8x12	0.12	100	42	1800	EPPV2A100M0812
		18	10x13	0.12	180	38	2200	EPPV2A180M1013