

PV series

- Super low ESR, High ripple current capability
- Rated voltage :2.5~63V.
- Endurance: 15,000 hours at 105°C
- Applications: motherboards, servers, VGA, etc.
- ROHS compliant
- Halogen Free compliant



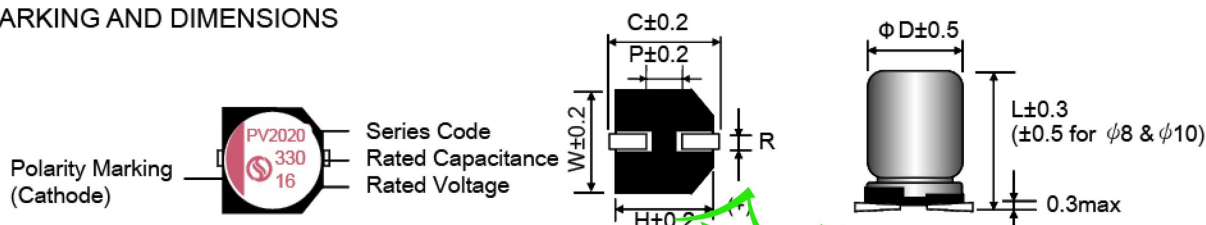
SPECIFICATIONS

Items	Conditions	Characteristics
Category Temperature Range	—	-55 to +105°C
Rated Voltage Range	—	2.5~63V
Capacitance Tolerance	at 20°C, 120Hz	±20%(M)
Surge Voltage	at 105°C	Rated voltage × 1.15V
Leakage Current	at 20°C after 2 minutes	$I \leq 0.2CV$ or 300(μA) Whichever is greater measured after 2 minutes application of rated working voltage at +20°C.
Dissipation Factor (tan δ)	at 20°C, 120Hz	Please see the attached characteristics list
Characteristics of Impedance at low, high temperature	at -55°C, 100kHz	$Z(-55^\circ\text{C})/Z(+20^\circ\text{C}) \leq 1.25$
	at -25°C, 100kHz	$Z(-25^\circ\text{C})/Z(+20^\circ\text{C}) \leq 1.15$
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 15,000 hours at 105°C.	Appearance NO significant damage.
		Capacitance change $\leq \pm 20\%$ of the initial value.
		DF(tanδ) $\leq 150\%$ of the initial specified value.
		ESR $\leq 150\%$ of the initial specified value.
		Leakage current $\leq$ The initial specified value.
Damp Heat (Steady State)	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to subjecting them to store at 60°C, 90 to 95% RH for 1,000 hours, without DC applied.	Appearance NO significant damage.
		Capacitance change $\leq \pm 20\%$ of the initial value.
		DF(tanδ) $\leq 150\%$ of the initial specified value.
		ESR $\leq 150\%$ of the initial specified value.
		Leakage current $\leq$ The initial specified value.
Surge Voltage	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltages specified at 105°C for 30 seconds through a protective resistor (R=1kΩ) and discharge for 5 minutes 30 seconds	Appearance NO significant damage.
		Capacitance change $\leq \pm 20\%$ of the initial value.
		DF(tanδ) $\leq 150\%$ of the initial specified value.
		ESR $\leq 150\%$ of the initial specified value.
		Leakage current $\leq$ The initial specified value.

※ Note: If any doubt arises, measure the leakage current after following voltage treatment.

Voltage treatment : DC rated voltage are applied to the capacitors for 120 minutes at 105°C.

MARKING AND DIMENSIONS



(Unit:mm)

Size Code	φD	L	W	H	C	R	P
5×6	5.0	6.0	5.3	5.3	6.0	0.5~0.8	1.4
6.3×6	6.3	6.0	6.6	6.6	7.3	0.5~0.8	2.1
6.3×9.5	6.3	9.5	6.6	6.6	7.3	0.5~0.8	2.1
8×7	8.0	7.0	8.3	8.3	9.3	0.5~0.8	3.2
8×9.5	8.0	9.5	8.3	8.3	9.3	0.8~1.1	3.2
8×12	8.0	12.0	8.3	8.3	9.0	0.8~1.1	3.2
10×8	10.0	8.0	10.3	10.3	11.0	0.8~1.1	4.6
10×10.5	10.0	10.5	10.3	10.3	11.0	0.8~1.1	4.6
10×12.5	10.0	12.5	10.3	10.3	11.0	0.8~1.1	4.6

PV SERIES STANDARD CHARACTERISTICS LIST

Rated Voltage (S.V.)	Cap (μF)	Size DxL	Leakage current (μA) max. ※2	ESR (mΩ) max. 100k to 300kHz / 20°C	Rated Ripple Current (mA rms) 100kHz / 105°C	D.F. (tanδ) max. 120Hz / 20°C
2.5 (2.9)	220	5×6	300	40	1,620	0.12
	330	6.3×6	300	20	2,690	0.12
	820	6.3×9.5	410	18	3,200	0.12
	820	8×9.5	410	18	4,520	0.12
	1500	8×9.5	750	18	4,520	0.12
	1800	8×12	900	12	5,200	0.12
	2700	10×12.5	1,350	12	5,500	0.12
4 (4.6)	68	5×6	300	40	1,500	0.12
	150	6.3×6	300	24	2,200	0.12
	680	6.3×9.5	544	16	3,200	0.12
	680	8×7	544	20	3,400	0.12
	1000	8×9.5	800	16	4,500	0.12
	1500	8×12	1,200	14	5,100	0.12
	1800	10×12.5	1,440	12	5,500	0.12
	2200	10×12.5	2,000	12	5,500	0.12
6.3 (7.2)	100	5×6	300	40	1,500	0.12
	220	5×7	300	20	1,600	0.12
	220	6.3×6	300	20	2,400	0.12
	560	6.3×9.5	705	20	3,200	0.12
	560	8×7	705	20	3,300	0.12
	820	8×9.5	1,033	15	4,450	0.12
	1000	8×9.5	1,260	15	4,520	0.12
	1200	8×12	1,512	12	5,020	0.12
	1500	10×10.5	1,890	15	5,020	0.12
	1800	10×12.5	2,268	12	5,400	0.12
10 (11.5)	2200	10×12.5	2,772	12	5,500	0.12
	68	5×6	300	40	1,500	0.12
	120	6.3×6	300	25	2,420	0.12
	150	8×7	300	22	2,450	0.12
	330	6.3×9.5	660	20	3,200	0.12
	560	8×9.5	1,120	16	4,450	0.12
	680	8×9.5	1,360	16	4,450	0.12
	820	8×12	1,640	14	4,850	0.12
	1000	10×10.5	2,000	15	5,020	0.12
	1200	10×10.5	2,400	15	5,200	0.12
16 (18.4)	1500	10×12.5	3,000	14	5,400	0.12
	100	6.3×6	320	24	2,400	0.12
	180	6.3×9.5	576	15	3,200	0.12
	220	6.3×9.5	704	15	3,200	0.12
	270	6.3×9.5	864	15	3,200	0.12
	270	8×7	864	20	3,400	0.12
	270	8×9.5	864	20	4,400	0.12
	470	8×9.5	1,504	25	4,400	0.12
	560	8×12	1,792	16	4,820	0.12
	680	10×10.5	2,176	18	5,200	0.12
	1000	10×12.5	3,200	16	5,400	0.12

※ 1. Capacitance tolerance : ±20%(M)

※ 2. After 2 minutes

PV SERIES STANDARD CHARACTERISTICS LIST

Rated Voltage (S.V.)	Cap (μF)	Size DxL	Leakage current (μA) max. ※2	ESR (mΩ) max. 100k to 300kHz / 20°C	Rated Ripple Current (mA rms) 100kHz / 105°C	D.F. (tanδ) max. 120Hz / 20°C
20 (23.0)	68	6.3×6	300	38	1,450	0.12
	180	6.3×9.5	720	30	1,450	0.12
	330	8×9.5	1320	30	1,890	0.12
	470	8×12	1880	28	3,320	0.12
	560	10×10.5	2240	28	3,320	0.12
	680	10×12.5	2720	28	4,220	0.12
25 (28.8)	47	6.3×6	300	40	1,200	0.12
	100	6.3×9.5	500	30	2,000	0.12
	100	8×7	500	40	2,000	0.12
	150	8×9.5	750	35	3,000	0.12
	220	8×12	1100	32	3,500	0.12
	330	10×10.5	1650	35	3,800	0.12
	470	10×12.5	2350	32	4,000	0.12
35 (40.3)	22	6.3×6	300	80	1,450	0.12
	56	6.3×9.5	392	50	2,300	0.12
	68	6.3×9.5	476	50	2,300	0.12
	68	8×7	476	60	2,500	0.12
	100	8×12	700	28	2,750	0.12
	220	10×12.5	1,540	28	3,200	0.12
50 (57.5)	12	6.3×6	300	100	660	0.12
	33	6.3×9.5	330	50	900	0.12
	47	8×9.5	470	45	1,850	0.12
	100	10×12.5	1,000	28	2,560	0.12
	180	10×12.5	1,800	28	2,560	0.12
63 (72.5)	22	6.3×9.5	300	50	1,800	0.12
	33	6.3×9.5	416	50	1,800	0.12
	47	8×12	592	36	2,200	0.12
	56	10×10.5	705	32	2,350	0.12
	100	10×12.5	1,260	28	2,550	0.12
	150	10×12.5	1,890	28	2,550	0.12

※ 1. Capacitance tolerance : ±20%(M)

※ 2. After 2 minutes

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