

# PV series

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

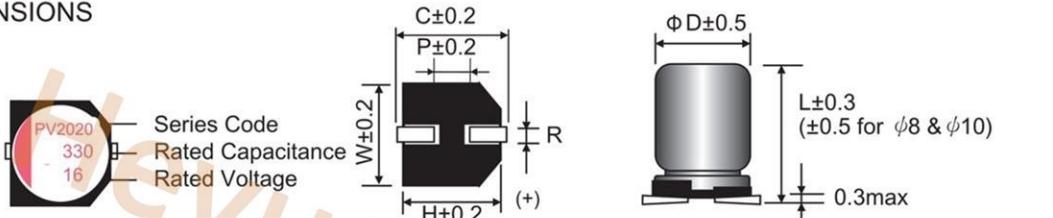
## SPECIFICATIONS

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≤0.2CV or 300(μA) Whichever is greater measured,after 2minutes 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 at -25°C,100kHz	Z(-55°C)/Z(+20°C) ≤ 1.25 Z(-25°C)/Z(+20°C) ≤ 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 ≤±20% of the initial value. DF(tanδ) ≤150% of the initial specified value. ESR ≤150% of the initial specified value. Leakage current ≤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 ≤±20% of the initial value. DF(tanδ) ≤150% of the initial specified value. ESR ≤150% of the initial specified value. Leakage current ≤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 30seconds	Appearance NO significant damage. Capacitance change ≤±20% of the initial value. DF(tanδ) ≤150% of the initial specified value. ESR ≤150% of the initial specified value. Leakage current ≤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	Ø D	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

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## 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	3200	0.12
	820	8×9.5	410	18	4520	0.12
	1500	8×9.5	750	18	4520	0.12
	1800	8×12	900	12	5200	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	1500	0.12
	220	5×7	300	20	1600	0.12
	220	6.3×6	300	20	2400	0.12
	560	6.3×9.5	705	20	3200	0.12
	560	8×7	705	20	3300	0.12
	820	8×9.5	1,033	15	4450	0.12
	1000	8×9.5	1,260	15	4520	0.12
	1200	8×12	1,512	12	5020	0.12
	1500	10×10.5	1,890	15	5020	0.12
	1800	10×12.5	2,268	12	5400	0.12
	2200	10×12.5	2,772	12	5,500	0.12
	68	5×6	300	40	1,500	0.12
10 (11.5)	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
	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
16 (18.4)	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

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## 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	6.3x6	300	38	1,450	0.12
	180	6.3x9.5	720	30	1,450	0.12
	330	8x9.5	1320	30	1,890	0.12
	470	8x12	1880	28	3,320	0.12
	560	10x10.5	2240	28	3,320	0.12
	680	10x12.5	2720	28	4,220	0.12
25 (28.8)	47	6.3x6	300	40	1,200	0.12
	100	6.3x9.5	500	30	2,000	0.12
	100	8x7	500	40	2,000	0.12
	150	8x9.5	750	35	3,000	0.12
	220	8x12	1100	32	3,500	0.12
	330	10x10.5	1650	35	3,800	0.12
	470	10x12.5	2350	32	4,000	0.12
35 (40.3)	22	6.3x6	300	80	1,450	0.12
	56	6.3x9.5	392	50	2,300	0.12
	68	6.3x9.5	476	50	2,300	0.12
	68	8x7	476	60	2,500	0.12
	100	8x12	700	28	2,750	0.12
	220	10x12.5	1,540	28	3,200	0.12
50 (57.5)	12	6.3x6	300	100	660	0.12
	33	6.3x9.5	330	50	900	0.12
	47	8x9.5	470	45	1,850	0.12
	100	10x12.5	1,000	28	2,560	0.12
	180	10x12.5	1,800	28	2,560	0.12
63 (72.5)	22	6.3x9.5	300	50	1,800	0.12
	33	6.3x9.5	416	50	1,800	0.12
	47	8x12	592	36	2,200	0.12
	56	10x10.5	705	32	2,350	0.12
	100	10x12.5	1,260	28	2,550	0.12
	150	10x12.5	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

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