

Data Sheet

Customer : _____

Product : Conductive Polymer Aluminum Solid Electrolytic Capacitor
Radial Type, High C/V, 125°C 2,000hours – HPR Series

Size : 8x8mm ~ 10x21mm

Issued Date : 01-Sep.-2025

Edition : Ver.1

Record of change

Date	Ver.	Description	Page

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01-Sep.-2025	01-Sep.-2025	01-Sep.-2025	
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CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

Radial Lead, 125°C High C/V

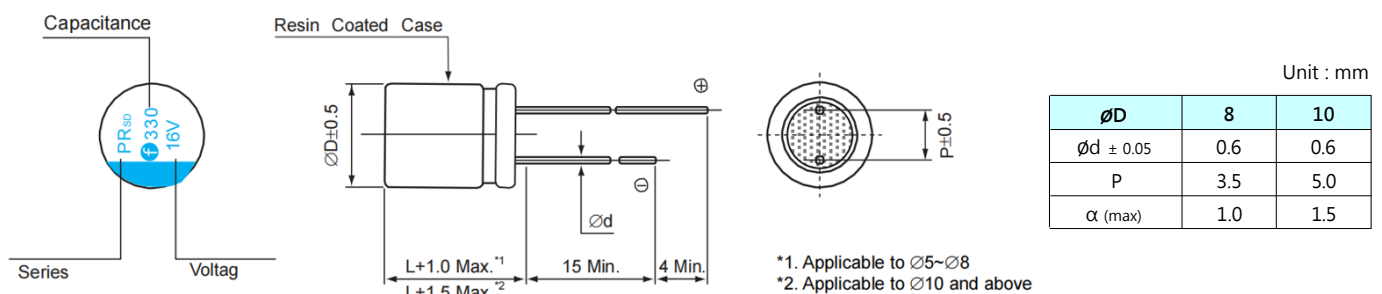
- Low ESR & high ripple current capability
- Endurance: 2,000 hours at 125°C
- Rated Voltage : 16V ~ 160V
- Rated capacitance : 4.7 ~ 2,500 μ F

SPECIFICATIONS

Item	Performance Characteristics	
Operating Temperature range	-55 + 125°C	
Rated Voltage Range	16V ~ 160V	
Capacitance Tolerance	$\pm 20\%$ (at 120 Hz/ 20°C)	
Surge Voltage	Rated Voltage x 1.15	
Leakage Current	Within the specified value as in standard rating	
Dissipation Factor (tan δ)	0.12 or less, less than or equal to the specified value at 20°C and 120Hz	
Temperature Characteristics (Impedance ratio at 100 KHz)	Z (-25°C) / Z (+20°C)	≤ 1.15
	Z (-55°C) / Z (+20°C)	≤ 1.25
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 16~25V 2,000 hours or ≥ 35 V & 10x16~21 1,500 hours at 125°C.	
	Capacitance change	$\leq \pm 30\%$ of the initial value
	D. F. (Tan δ)	$\leq 150\%$ of initial specified value
	ESR	$\leq 150\%$ of initial specified value
	Leakage current	Initial specified value or less
Bias Humidity Test	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them at 60°C, 90 to 95% RH for 1,000 hours.	
	Capacitance change	$\leq \pm 20\%$ of the initial value
	D. F. (Tan δ)	$\leq 150\%$ of initial specified value
	ESR	$\leq 150\%$ of initial specified value
	Leakage current	Initial specified value or less
Surge Voltage Test	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltage specified At 125°C for 30 seconds through a protective resistor (R=1K Ω) and discharge for 5 minutes 30 seconds.	
	Capacitance change	$\leq \pm 20\%$ of the initial value
	D. F. (Tan δ)	$\leq 150\%$ of initial specified value
	ESR	$\leq 150\%$ of initial specified value
	Leakage current	Initial specified value or less
Failure Rate	0.5% per 1,000 hours maximum (Confidence level 60% at 125°C)	

※ In case of any doubt arises, measure the leakage current after voltage applied for 120 minutes at 125°C.

Dimension



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■ Part Numbering (example: 120 μ F 50V 8x12mm)

H P R **1 2 1** **M** **1 H** **R** **B** **D** **1 2 0** **B** **P** **0 0**
 SERIES CAPACITANCE TOL. W.V. TYPE LEAD DIA. LENGTH PRINTING COLOR RUBBER LEAD PROCESS

■ Standard Products Table

Rated voltage (V.DC)	Rated Capacitance(μ F)	Case Size D x L (mm)	tan δ	Leakage Current (μ A)	ESR (m Ω max./ 20°C 100KHz to 300KHz)	Rated ripple current (mA rms, 100KHz)	
						Tx $\leq$ 105°C	105°C<Tx $\leq$ 125°C
16 (1C)	470	8 x 8	0.10	1,504	15	4,300	1,720
	820	8 x 12	0.10	2,624	13	4,650	1,860
	1,000	10 x 12	0.10	3,200	12	5,600	2,240
	1,200	8 x 16	0.10	3,840	13	7,000	2,500
	1,500	8 x 20	0.10	4,800	13	7,500	2,800
	2,200	10 x 16	0.10	7,040	13	8,000	3,200
	2,500	10 x 21	0.10	8,000	13	10,000	4,000
25 (1E)	100	8 x 8	0.10	500	24	2,900	1,160
	150	8 x 8	0.10	750	24	2,900	1,160
	220	8 x 12	0.10	1,100	18	4,250	1,700
	330	8 x 12	0.10	1,650	18	4,250	1,700
	470	8 x 12	0.10	2,350	18	4,250	1,700
	470	10 x 12	0.10	2,350	16	4,700	1,880
	560	10 x 12	0.10	2,800	16	4,700	1,880
	680	10 x 12	0.10	3,400	16	4,700	1,880
	1,000	10 x 16	0.10	5,000	14	5,000	2,000
	1,800	10 x 21	0.10	9,000	14	5,400	2,160
35 (1V)	47	8 x 8	0.10	329	30	2,600	1,040
	68	8 x 8	0.10	476	30	2,600	1,040
	100	8 x 12	0.10	700	26	2,950	1,180
	150	8 x 12	0.10	1,050	26	2,950	1,180
	180	8 x 12	0.10	1,260	26	2,950	1,180
	220	8 x 12	0.10	1,540	26	2,950	1,180
	220	10 x 12	0.10	1,540	24	3,400	1,360
	330	10 x 12	0.10	2,310	24	3,400	1,360
	680	10 x 16	0.10	4,760	22	3,800	1,520
	1,000	10 x 21	0.10	7,000	20	4,580	1,830
50 (1H)	47	8 x 12	0.10	470	32	2,250	900
	68	8 x 12	0.10	680	32	2,250	900
	82	8 x 12	0.10	820	32	2,250	900
	120	8 x 12	0.10	1,200	32	2,250	900
	120	10 x 12	0.10	1,200	28	2,620	1,040
	180	10 x 12	0.10	1,800	28	2,620	1,040
	220	10 x 12	0.10	2,200	28	2,620	1,040
	330	10 x 16	0.10	3,300	24	3,400	1,350
	470	10 x 21	0.10	4,700	22	4,250	1,700
63 (1J)	82	8 x 12	0.10	1,033	32	2,100	840
	100	8 x 12	0.10	1,260	32	2,100	840
	150	10 x 12	0.10	1,890	28	2,550	1,020
	180	10 x 12	0.10	2,268	28	2,550	1,020
	220	10 x 16	0.10	2,772	26	3,100	1,250
	330	10 x 21	0.10	4,158	24	3,570	1,420

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■ Standard Products Table

Rated voltage (V.DC)	Rated Capacitance(μF)	Case Size D x L (mm)	tan δ	Leakage Current (μA)	ESR (mΩ max./ 20°C 100KHz to 300KHz)	Rated ripple current (mA rms, 100KHz)	
						Tx ≤ 105°C	105°C<Tx≤125°C
100 (2A)	22	8 x 12	0.10	440	40	1,850	740
	33	10 x 12	0.10	660	38	2,100	840
	47	10 x 12	0.10	940	38	2,100	840
	100	10 x 21	0.10	2,000	36	2,950	1,180
160 (2C)	4.7	8 x 12	0.10	150	100	1,400	560
	6.8	8 x 12	0.10	217	100	1,400	560
	12	10 x 12	0.10	384	120	1,800	720

■ Frequency coefficient of allowable ripple current

Frequency	120 Hz ≤ f < 1 KHz	1 KHz ≤ f < 10 KHz	10 KHz ≤ f < 100 KHz	100 KHz ≤ f ≤ 300 KHz
Coefficient	0.05	0.30	0.70	1.00