HITANO
ENTERPRISE CORP. ®

Data Sheet

Customer :

Product : Conductive Polymer Hybrid Aluminum Electrolytic Capacitors

Radial Type, High Temperature, 135℃ 4,000Hours – HHPD Series

Size : 8x9mm ~ 10x16mm

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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HITANO ENTERPRISE CORP. ®

HHPD SERIES

CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

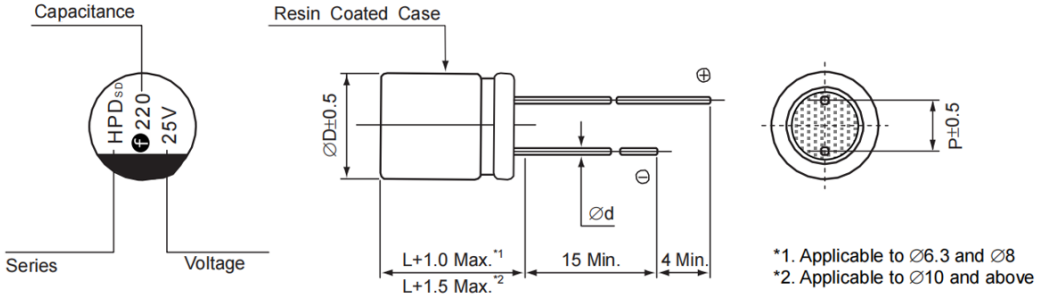
Radial Type, 135℃ High Temperature

- High reliability and high voltage realized by hybrid electrolyte
- Endurance: 4,000 hours at 135℃
- Rated Voltage：25V ~ 63V
- Rated capacitance：33 ~ 560 μF

■SPECIFICATIONS

Item	Performance Characteristics
Operating Temperature range	-55 + 135℃
Rated Voltage Range	25V ~ 63V
Capacitance Tolerance	± 20% (at 120 Hz/ 20℃)
Leakage Current	I ≦ 0.01 CV or less (2 minutes , 20℃) Not greater than the formula above after 2 minutes voltage applied. I： Leakage current (μA) C： Capacitance (μF) V： Voltage(VDC)
Dissipation Factor (tan δ)	Rated voltage(V) 25 35 50 63 (20℃ · 120 Hz) tan δ (Max.) 0.14 0.12 0.10 0.08
Temperature Characteristics (Impedance ratio at 100 KHz)	Z (-25℃)/ Z (+20℃) < 2.0 Z (-55℃)/ Z (+20℃) < 2.5
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 4,000 hours at 135℃. Capacitance change: ≤ ± 30% of the initial value D. F. (Tan δ): ≤ 200% of initial specified value ESR: ≤ 200% of initial specified value Leakage current: Initial specified value or less
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 135℃ without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to item 4.1 of JIS C 5101-4. Capacitance change: ≤ ± 30% of the initial value D. F. (Tan δ): ≤ 200% of initial specified value ESR: ≤ 200% 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℃ after subjecting them to the DC rated voltage at 85℃, 85% RH for 2,000 hours. Capacitance change: ≤ ± 30% of the initial value D. F. (Tan δ): ≤ 200% of initial specified value ESR: ≤ 200% of initial specified value Leakage current: Initial specified value or less Appearance: No significant damage
Resistance to Soldering heat	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the soldering. Capacitance change: ≤ ± 10% of the initial value D. F. (Tan δ): ≤ the initial specified value Leakage current: ≤ the initial specified value

■ Dimension



*1. Applicable to ∅6.3 and ∅8
*2. Applicable to ∅10 and above

Unit : mm

ØD	8	10
Ød ± 0.05	0.6	0.6
P	3.5	5.0
α (max)	1.0	1.5

CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

■ Part Numbering (example: 470 µF 25V 10x12mm)

H H P D	4 7 1	M	1 E	R	B	E	1 2 0	S	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 (µF)	Case Size D x L (mm)	tan δ	ESR (mΩ max. 20℃/100 KHz)	Rated ripple current (mA rms/100KHz)	
					≦125℃	≦135℃
25 (1E)	220	8 x 9	0.14	23	3,300	2,000
	270	8 x 9	0.14	23	3,300	2,000
	330	10 x 10	0.14	20	3,400	2,100
	470	10 x 12	0.14	16	3,500	2,300
	560	10 x 16	0.14	11	4,000	2,900
35 (1V)	100	8 x 9	0.12	27	2,900	1,600
	150	8 x 9	0.12	27	2,900	1,600
	270	10 x 10	0.12	20	3,300	2,000
	330	10 x 12	0.12	16	3,500	2,300
	470	10 x 16	0.12	11	4,000	2,900
50 (1H)	47	8 x 9	0.10	30	2,200	1,250
	68	8 x 9	0.10	30	2,200	1,250
	120	10 x 10	0.10	28	2,600	1,600
	150	10 x 12	0.10	18	3,200	2,000
	220	10 x 16	0.10	13	3,700	2,600
63 (1J)	33	8 x 9	0.08	40	1,900	1,200
	47	8 x 9	0.08	40	1,900	1,200
	82	10 x 10	0.08	30	2,300	1,500
	100	10 x 12	0.08	20	3,000	1,650
	150	10 x 16	0.08	15	3,500	2,400

■ 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	0.10	0.40	0.70	1.00