ELCON

Conductive Polymer Aluminum Solid Electrolytic Capacitors

HPR

125℃ HighTemperature Series (Hybrid)

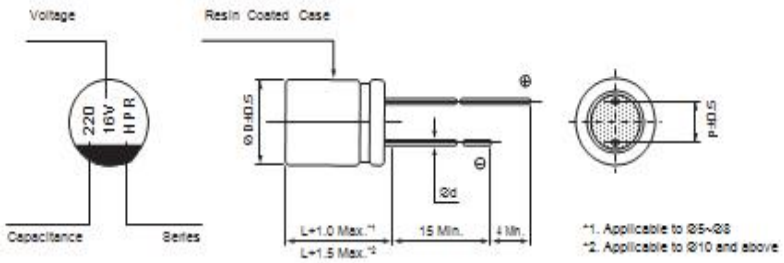
- 125℃ HighTemperature
- Load life of 4000 hours at 125℃.
- Radial lead type: lead free flow soldering condition correspondence.
- RoHS Compliance(2011/65/EU)

■SPECIFICATIONS

Items	Performance Characteristics		
Category Temperature Rang	-55 ~ +125℃		
Rated Voltage Range	16 ~ 100V		
Rated Capacitance Range	47 ~ 1500μF		
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)	Leakage current ≤ 0.01CV, (after 2 minutes application of rated voltage at 20°C).		
Temperature Characteristics (Max.	Z -25℃ / Z+20℃ ≤1.5 (100kHz) Z- 55℃ / Z+20℃ ≤2.0		
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20 ℃ after the rated voltage is applied for 4000 hours at 125 ℃	Capacitance change	Within ±30% of the initial capacitance value(※3)
		tan δ	200% or less than the initial specified value
		ESR(※1)	200% 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 2000 hours at 85℃, 85% RH.	Capacitance change	Within ±30% of the initial capacitance value(※3)
		tan δ	200% or less than the initial specified value
		ESR(※1)	200% or less than the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Resistance to Soldering Heat	The following specifications shall be satisfied when the capacitors are restored to 20 ℃ after the soldering.	Capacitance change	Within ±10% of the initial capacitance value(※3)
		tan δ	Less than or equal to the initial specified value
		ESR(※1)	Less than or equal to the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Sheif Life	After 1000 hours application of the rated voltage at 125°C, they meet the characteristics listed below.	Capacitance change	Within ±30% of the initial capacitance value(※3)
		tan δ	200% or less than the initial specified value
		ESR(※1)	200% 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 minuters at 125 ℃
※3 Initial value: The value before test of examination of resistance to soldering.

■ Dimensions



Type numbering system(Exp:16V 220μF)

Φ x L(mm)

Size	6.3x7	6.3x11.5	8x12	10x12
ΦD	6.3	6.3	8	10.0
L	7	12	12	12
P	2.5	2.5	3.5	5.0
Φd	0.5	0.6	0.6	0.6

Voltage

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

■ FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency	120Hz≤f≤1KHz	1KHz≤f≤10KHz	10KHz≤f≤100KHz	100KHz≤f≤300KHz
Coefficient	0.10	0.40	0.70	1.00

HPR Series (Hybrid)

■STANDARD RATINGS

Rated voltage (V)(code)	Surge Voltage (V)	Rated Cpacitance (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	6.3x7	0.16	35.2	27	1450	EPHPR1C221M6307
		330	6.3x11.5	0.16	52.8	25	1600	EPHPR1C331M6311
		820	8x12	0.16	131.2	20	1850	EPHPR1C821M0812
		1500	10x12	0.16	240	14	3000	EPHPR1C152M1012
25 (1E)	28.7	100	6.3x7	0.14	25	30	1400	EPHPR1E101M6307
		150	6.3x7	0.14	37.5	30	1400	EPHPR1E151M6307
		220	6.3x11.5	0.14	55	27	1650	EPHPR1E221M6311
		470	8x12	0.14	117.5	23	1900	EPHPR1E471M0812
		680	10x12	0.14	170	15	2700	EPHPR1E681M1012
35 (1V)	40.2	100	6.3x7	0.12	35	35	1400	EPHPR1V101M6307
		150	6.3x11.5	0.12	52.5	32	1650	EPHPR1V151M6311
		220	8x12	0.12	77	24	1800	EPHPR1V221M0812
		470	10x12	0.12	164.5	16	2600	EPHPR1V471M1012
50 (1H)	57.5	33	6.3x7	0.10	16.5	40	1100	EPHPR1H330M6307
		47	6.3x11.5	0.10	23.5	36	1250	EPHPR1H470M6311
		120	8x12	0.10	60	28	1400	EPHPR1H121M0812
		220	10x12	0.10	110	23	1800	EPHPR1H221M1012
63 (1J)	72.4	22	6.3x7	0.08	13.86	80	900	EPHPR1J220M6307
		33	6.3x11.5	0.08	20.79	70	1000	EPHPR1J330M6311
		100	8x12	0.08	63	36	1300	EPHPR1J101M0812
		150	10x12	0.08	94.5	26	1600	EPHPR1J151M1012
80 (1K)	92	47	8x12	0.08	37.6	42	1200	EPHPR1K470M0812
		82	10x12	0.08	65.6	33	1350	EPHPR1K820M1012
100(2A)	115	47	10x12	0.08	47	60	1050	EPHPR2A470M1012