

## CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

### HE2 Series

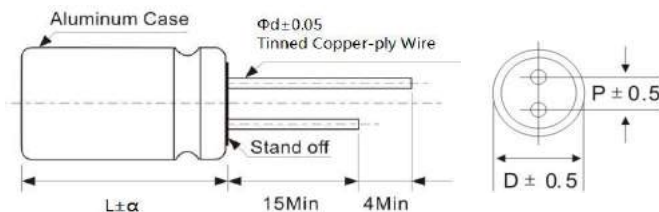
- Low ESR, high ripple current
- Load life of 2000 hours at 105°C
- Radial, Voltage Range 2.5V~25VDC
- RoHS Compliant



#### ◆ Specifications

Items	Characteristics											
Category	-55 ~ +105°C											
Temperature Range	-55 ~ +105°C											
Rated Voltage Range	2.5 ~ 25V											
Capacitance tolerance	±20%(M) (at 20°C, 120Hz)											
Leakage Current	Less than or equal to the specified value. After 2 minutes application of rated Voltage at 20°C, I ≤ 0.2CV or 500µA (MAX)											
Dissipation Factor(tanδ)	Rated voltage (V)	2.5	4	6.3	6.8	7.5	10	12	16	20	25	(at 20°C, 120Hz)
	tanδ (Max.)	0.08					0.12					
Low Temperature Characteristics (Max.Impedance Ratio)	Z(-25°C)/Z(+20°C)	≅ 1.25					(100KHz)					
	Z(-55°C)/Z(+20°C)	≅ 1.25										
Endurance	The specifications listed below shall be satisfied when the capacitors are restored to 20°C after application of rated voltage for 2000 hours at 105°C.											
	Appearance	No significant damage										
	Capacitance change	≅ ±20% of the initial value										
	D.F.(tanδ)	≅ 150% of the specified value										
	ESR	≅ 150% of the specified value										
	Leakage current	≅ The specified value										
Damp Heat (Steady State)	The specifications listed below shall be satisfied when the capacitors are restored to 20°C after application of rated voltage for 1000 hours at 60°C, 90%~ 95% RH.											
	Appearance	No significant damage										
	Capacitance change	≅ ±20% of the initial value										
	D.F.(tanδ)	≅ 150% of the specified value										
	ESR	≅ 150% of the specified value										
	Leakage current	≅ The specified value										
Surge Voltage	Surge Voltage=Rated voltage × 1.15(V) The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages specified at 105°C for 30 seconds through a protective resistor (Rc=1kΩ) and discharge for 5 minutes 30 seconds											
	Appearance	No significant damage										
	Capacitance change	≅ ±20% of the initial value										
	D.F.(tanδ)	≅ 150% of the specified value										
	ESR	≅ 150% of the specified value										
	Leakage current	≅ The specified value										

#### ◆ Dimensions (mm)



ΦD	5	6.3	8	10
P	2.0	2.5	3.5	5.0
Φd	0.5	0.6	0.6	0.6

α	(L < 16)1.0
	(16 ≅ L < 22)1.5
	(L ≅ 22)2.0



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### ◆ Rated Ripple Current Coefficient

Frequency(Hz)	120Hz $\leq$ f < 1kHz	1kHz $\leq$ f < 10kHz	10kHz $\leq$ f < 100kHz	100kHz $\leq$ f < 500kHz
Coefficient	0.05	0.30	0.70	1.00

### ◆ Standard Ratings

Rated voltage (V)	Rated capacitance (uF)	Case size $\Phi$ D×L(mm)	ESR(m $\Omega$ ) at 20°C, 100 KHz	Leakage Current ( $\mu$ A)	Rated ripple current (mArms/105°C/100kHz)
2.5	560	5*8	18	500	2900
	560	6.3*8	15	500	3500
	680	6.3*8	15	500	3500
	680	8*9	12	500	5200
	820	6.3*8	15	500	3500
	820	8*9	12	500	5200
	1000	8*9	12	500	5500
	1000	8*12	12	500	5500
	1200	8*9	12	600	5500
	1200	8*12	12	600	5500
1500	8*12	12	750	5500	
4	560	6.3*8	15	500	3100
	560	8*9	12	500	5100
	680	6.3*8	15	544	3500
	680	8*9	12	544	5100
	820	6.3*9	15	656	4100
	820	8*9	12	656	5100
	1000	6.3*12	15	800	4100
	1000	8*9	12	800	5100
	1200	6.3*12	15	960	4500
	1200	8*9	12	960	5100
6.3	220	5*7	18	500	2690
	220	5*8	18	500	2690
	270	5*8	18	500	2690
	330	5*8	18	500	2690
	330	6.3*8	15	500	3100
	390	5*9	16	500	3100
	390	6.3*8	15	500	3100
	470	5*9	15	592	3300
	470	6.3*8	15	592	4100
	560	5*11	15	706	3500
	560	6.3*8	15	706	4100
	560	8*9	12	706	5100
	680	5*12	15	857	4100
	680	6.3*8	15	857	4100
	680	8*9	12	857	5100

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### ◆ Standard Ratings

Rated voltage (V)	Rated capacitance (uF)	Case size ΦD×L(mm)	ESR(mΩ) at 20°C,100 KHz	Leakage Current (μA)	Rated ripple current (mArms/105°C/100kHz)
6.3	820	6.3*9	15	1033	4500
	820	6.3*12	15	1033	4800
	820	8*9	12	1033	5100
	1000	6.3*12	14	1260	4800
	1000	8*9	12	1260	5100
	1000	8*12	12	1260	5500
	1200	6.3*12	12	1512	4900
	1200	8*9	12	1512	5100
	1200	8*12	12	1512	5500
	1500	8*12	12	1890	5500
	1500	10*12.5	12	1890	5900
	2200	10*12.5	12	2772	5900
7.5	270	5*8	18	500	2690
	330	6.3*8	16	500	3100
	390	6.3*8	16	585	3500
	470	6.3*8	16	705	3500
	560	6.3*8	16	840	3500
	680	6.3*12	16	1020	3800
	680	8*9	12	1020	4800
	820	6.3*12	16	1230	3800
	820	8*9	12	1230	4800
	1000	8*9	12	1500	4800
	1000	8*12	12	1500	5100
	1200	8*12	12	1800	5100
	1200	10*12.5	12	1800	5500
	1500	10*12.5	12	2250	5500
10	100	5*8	20	500	1800
	150	5*8	20	500	1800
	220	5*8	20	500	2200
	220	6.3*8	16	500	2900
	270	6.3*8	16	540	2900
	330	5*8	20	660	2900
	330	6.3*8	16	660	3100
	390	6.3*8	16	780	3100
	390	6.3*12	16	780	3500
	470	6.3*8	16	940	3100
	470	8*9	14	940	4800
	560	6.3*9	16	1120	3500
	560	8*9	16	1120	4800

## HE2 Series

### ◆ Standard Ratings

Rated voltage (V)	Rated capacitance (uF)	Case size ΦD×L(mm)	ESR(mΩ) at 20°C, 100 KHz	Leakage Current (μA)	Rated ripple current (mArms/105°C/100kHz)
10	680	6.3*11	16	1360	3500
	680	8*9	14	1360	4800
	820	8*9	14	1640	4800
	820	8*12	14	1640	5100
	1000	8*12	14	2000	5100
	1000	10*12.5	14	2000	5500
	1500	8*12	14	3000	5300
	1500	10*12.5	14	3000	5500
12	220	5*9	20	528	2690
	220	6.3*8	18	528	3160
	330	5*9	20	792	2800
	330	6.3*8	18	792	3200
	390	6.3*8	18	936	3200
	470	6.3*12	18	1128	3500
	470	8*9	15	1128	4100
	560	6.3*12	18	1344	3500
	560	8*9	15	1344	4100
	680	8*9	15	1632	4100
	820	8*12	15	1968	4500
	1000	8*12	15	2400	4500
	1000	10*12.5	12	2400	5200
	1200	10*12.5	12	2880	5200
1500	10*12.5	12	3600	5200	
16	68	5*7	25	500	2100
	100	5*8	25	500	2100
	100	6.3*8	20	500	2100
	150	5*8	25	500	2100
	220	5*9	22	704	2690
	220	6.3*8	18	704	3100
	220	5*11	18	704	3100
	220	8*9	15	704	4100
	270	5*11	18	864	3100
	270	6.3*8	15	864	4100
	270	8*9	15	864	4500
	330	6.3*8	18	1056	3100
	330	6.3*12	18	1056	4100

## HE2 Series

### ◆ Standard Ratings

Rated voltage (V)	Rated capacitance (uF)	Case size ΦD×L(mm)	ESR(mΩ) at 20℃, 100 KHz	Leakage Current (μA)	Rated ripple current (mArms/105℃/100kHz)
16	330	8*9	15	1056	4100
	470	6.3*11	18	1504	3500
	470	8*9	15	1504	4100
	470	8*12	15	1504	4200
	470	10*12	14	1504	4200
	560	8*9	18	1792	3500
	560	8*12	15	1792	4100
	680	8*12	15	2176	4500
	680	10*12	14	2176	4500
	820	8*12	15	2624	4500
	820	10*12	14	2624	4800
	1000	8*12	15	3200	4800
	1000	10*12.5	14	3200	5200
	1200	10*12.5	14	4800	5200
25	68	6.3*8	40	500	2100
	68	8*9	30	500	3500
	82	6.3*8	40	500	2150
	82	8*9	30	500	3800
	100	6.3*8	40	500	2200
	100	5*9	40	500	2150
	150	6.3*8	40	750	4200
	150	6.3*12	35	750	4300
	220	6.3*8	40	1100	3800
	220	6.3*12	35	1100	3800
	220	8*12	25	1100	4200
	220	10*12	25	1100	4800
	330	6.3*12	35	1650	3800
	330	8*9	25	1650	4200
	330	8*12	25	1650	4200
	330	10*12	20	1650	4800
	390	6.3*12	35	1950	4200
	470	8*12	25	2350	4200
	470	10*12	20	2350	4800
	680	8*12	25	3400	4200
	680	10*12	20	3400	4800
	820	10*12.5	20	4100	4800
1000	10*12.5	20	5000	4800	

## HE2 Series

### ◆ How to order

<u>HE2</u>	<u>106</u>	<u>M</u>	<u>016</u>	<u>01250250</u>	<u>050</u>	<u>B</u>	<u>000</u>	<u>-</u>
↓	↓	↓	↓	↓	↓	↓	↓	↓
<u>Series</u>	<u>Capacitance code</u>	<u>Tolerance</u>	<u>Rated DC Voltage</u>	<u>Size Code</u>	<u>Pitch</u>	<u>Package</u>	<u>Lead Length</u>	<u>Additional characters may be added for special requirements</u>
HE2	pF Code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) 106 = 10uF 107 = 100uF	M: +/-20%	Code 016: 16VDC For DC Voltage 006: 6.3VDC 016: 16VDC 035: 35VDC 200: 200VDC 450: 450VDC	Code 012502550: Size 12.5*25mm  00500110: Size 5*11mm 00630110: Size 6.3*11mm 01250250: Size 12.5*25mm 01600250: Size 16*25mm	Axial: 000 2.0: 020 2.5: 025 3.5: 035 5.0: 050 7.5: 075	B: BULK T: AMMO TAPED	Standard: 000 Cut Lead Length: 3.0mm: 030 3.5mm: 035 4.0mm: 040 4.5mm: 045 5.0mm: 050	