

General Feature

Low ESR, High Ripple Current
Load life of 2000hours at 105°C
RoHS Compliant

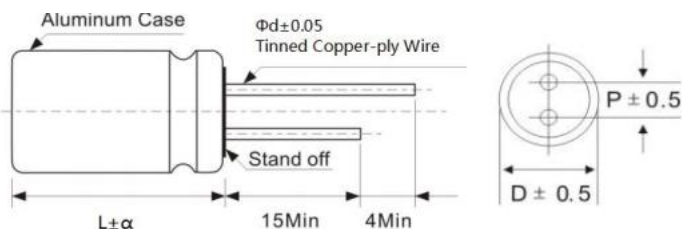


Specification

Items	Characteristics										
Temperature Range	-55℃ ~ +105℃										
Rated Voltage Range	2.5 ~ 25V										
Capacitance Tolerance	±20% (M) at 20℃, 120Hz										
Leakage Current	I≤0.2CV or 500 A (whichever is greater) Less than or equal to the specified value. After 2 minutes application of rated voltage at 20℃										
Dissipation Factor tan	Rated Voltage(V)	2.5	4	6.3	7.5	10	12	16	20	25	At 20℃, 120Hz
	tan δ (Max)	0.08				0.12					
Low Temperature Characteristics (Max. Impedance Ratio)	Z(-25℃)/Z(+20℃)			≤1.25				100KHz			
	Z(-55℃)/Z(+20℃)			≤1.25							
Endurance	The specification listed below shall be satisfied when the capacitors are restored at 20℃ after application of rated voltage for 2,000 hours at 105℃										
	Appearance					No significant damage					
	Capacitance Change					≤±20% of the initial value					
	D.F. (tan δ)					≤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℃ after application of rated voltage for 1000 hours at 60℃, 90%~95% RH.										
	Appearance					No significant damage					
	Capacitance Change					≤±20% of the initial value					
	D.F. (tan δ)					≤150% of the specified value					
	ESR					≤150% of the specified value					
	Leakage Current					≤The specified value					
Surge Voltage	The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages specified at 105℃ for 30 seconds through a protective resistor (Rc=1K Ω) and discharge for 5 minutes 30 seconds										
	Appearance					No significant damage					
	Capacitance Change					≤±20% of the initial value					
	D.F. (tan δ)					≤150% of the specified value					
	ESR					≤150% of the specified value					
	Leakage Current					≤The specified value					

HRL- Solid Polymer Aluminum Electrolytic Capacitors

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

a	L < 16) 1.0
	(16 ≤ L < 22) 1.5
	L ≥ 22) 2.0

Rated Ripple Current Coefficient

Frequency (Hz)	120Hz ≤ f < 1kHz	1kHz ≤ f < 10kHz	10kHz ≤ f < 100kHz	100kHz ≤ f < 500kHz
Coefficient	0.05	0.3	0.7	1.00

Standard Ratings

Rated Voltage (V)	Rated Capacitance (μF)	Case Size φD×L(mm)	ESR (mΩ) at 20°C, 100KHz	Leakage Current μA	Rated Ripple Current (mA _{rms} /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
	1200	8*9	12	960	5100
6.3	220	5*8	18	500	2690
	270	5*7	20	500	2450
	270	5*8	18	500	2690
	330	5*7	20	500	2450
	330	5*8	18	500	2690
	330	6.3*8	15	500	3100
	390	5*9	16	500	3100
	470	5*9	16	592	3300
	470	5*9	16	592	3300

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Rated Voltage (V)	Rated Capacitance (μ F)	Case Size ϕ DxL(mm)	ESR (m Ω) at 20°C, 100KHz	Leakage Current μ A	Rated Ripple Current (mArms/105°C /100kHz)
6.3	470	6.3*8	15	592	4100
	500	5.5*7	16	630	3500
	560	5.5*8	16	706	3500
	560	5*11	16	706	3500
	560	6.3*8	15	706	4100
	680	5*11	16	857	3500
	680	6.3*8	15	857	4100
	820	5.5*11	15	1033	4100
	820	6.3*8	15	1033	4100
	820	6.3*9	15	1033	4500
	1000	6.3*12	14	1260	5100
	1000	8*12	12	1260	5500
	1200	6.3*12	14	1512	4800
	1500	6.3*14	14	1890	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	220	5*8	20	500	2200
	220	6.3*8	16	500	2900
	270	6.3*8	16	540	2900
	330	6.3*8	16	660	3100
	330	8*9	14	660	4800
	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*12	16	1120	3500
	560	8*9	14	1120	4800
	680	6.3*12	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

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Rated Voltage (V)	Rated Capacitance (μ F)	Case Size ϕ DxL(mm)	ESR (m Ω) at 20°C, 100KHz	Leakage Current μ A	Rated Ripple Current (mArms/105°C /100kHz)
10	1200	10*12.5	14	2400	5500
	1500	10*12.5	14	3000	5500
	2200	10*12.5	14	4400	5500
12	220	5*9	20	528	2690
	220	6.3*8	18	528	3160
	330	5*9	20	648	2690
	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	100	5*8	35	500	2100
	150	5*8	25	500	2100
	150	6.3*8	20	500	2690
	180	5*9	22	576	2690
	220	5*9	22	704	2690
	220	6.3*8	18	704	3100
	220	8*9	15	704	3500
	270	5*9	22	864	2900
	270	6.3*8	18	864	3100
	270	8*9	15	864	3500
	330	5.5*10	20	1056	3100
	330	6.3*8	18	1056	3100
	330	6.3*12	18	1056	3700
	470	5.5*10	18	1504	3500
	470	6.3*12	18	1504	3700
	470	8*9	15	1504	3700
	470	8*12	15	1504	4100
	560	6.3*12	18	1792	3700
	680	5.5*14	18	2176	3700
	680	6.3*12	18	2176	3700
	680	6.3*14	18	2176	4100
	680	8*12	15	2176	4100
	820	6.3*14	18	2176	4100
	820	8*12	15	2624	4200
	1000	6.3*14	18	3200	4100
	1000	8*12	15	3200	4200
	1000	10*12.5	14	3200	4900
	1200	8*14	15	3840	4500
	1500	8*14	15	4800	4900
	1500	10*12.5	14	4800	4900
	2200	10*12.5	14	7040	4900

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Rated Voltage (V)	Rated Capacitance (μ F)	Case Size ϕ DxL(mm)	ESR (m Ω) at 20°C, 100KHz	Leakage Current μ A	Rated Ripple Current (mArms/105°C /100kHz)
25	47	5*8	50	500	1050
	68	5*8	50	500	1050
	100	5*8	40	500	1100
	100	5*9	40	500	1300
	100	6.3*8	40	500	2200
	150	5*11	40	750	1900
	150	6.3*7	40	750	1750
	220	5*11	40	1100	1900
	220	6.3*7	40	1100	1750
	220	5.5*8	40	1100	1900
	220	6.3*8	40	1100	2200
	220	6.3*12	35	1100	2900
	330	5.5*11	40	1650	2500
	330	6.3*9	35	1650	2900
	330	6.3*12	35	1650	3100
	330	8*9	30	1650	3100
	330	8*12	25	1650	3800
	470	6.3*12	35	2350	3500
	470	6.3*14	35	2350	3800
	470	8*12	25	2350	3800
	470	10*12.5	20	2350	4800
	560	6.3*14	35	2800	3900
	560	8*12	25	2800	3900
	680	6.3*14	35	3400	3900
	680	6.3*16	25	3400	4200
	680	8*12	25	3400	4200
	820	6.3*16	25	4100	4200
	820	8*12	25	4100	4200
	820	8*14	25	4100	4500
	820	10*12.5	20	4100	4800
	1000	8*14	25	5000	4500
	1000	10*12.5	20	5000	4800
	1200	8*17	25	6000	4800
	1200	10*12.5	20	6000	4800
	1500	10*15	20	7500	5100
	2200	10*17	20	11000	5200