

# Chip Aluminum Electrolytic Capacitors

## EAS4 - Extra Lower Impedance Aluminum Electrolytic Capacitors **ELECSOUND**

Elecsound is a leading manufacturer of aluminum electrolytic capacitors. Mainly include radial type electrolytic capacitors and chip aluminum electrolytic capacitors.

### Features:

Extra low impedance with temperature range -55°C to +105°C and load life of 1000~3000 hours

Emboss carrier tape packing system is available for automatic insertion.

Available for reflow soldering

Designed for surface mounting on density circuit board.

High stability and reliability

Available for high density surface mounting

Rohs Compliant

### Specifications:

Operating Temperature Range(°C): -55~+105

Rated Voltage Range(V): 6.3~50V

Nominal Capacitance Ranges(μF): 4.7~4700

Capacitance Tolerance(20 °C,120Hz) : 20%

Leakage current Φ4~Φ10: <0.01CV or 3uA whichever is greater(at 25 °C ,after 2 minutes)

( μA): Φ12.5~Φ16: <0.03CV or 4uA whichever is greater(at 25 °C ,after 1 minutes)

### Resistance to Soldering Heat

Capacitance Change	Within ±10% of the initial value
Tanδ	Initial specified value or less
Leakage Current	Initial specified value or less

### Dissipation Factor(25 °C,120Hz)

Rated Voltage (V)	6.3	10	16	25	35	50	
tan δ	Φ4~Φ10	0.22	0.19	0.16	0.14	0.12	0.12
	Φ12.5~Φ16	0.26	0.22	0.18	0.16	0.14	0.12

### Stability at Low Temperature (Measurement frequency: 120Hz)

Rated voltage (V.DC)		6.3	10	16	25	35	50
Impedance ratio ZT/Z20 (max)	Φ4~Φ10	Z(-25°C)/Z(20°C)	3	2	2	2	2
		Z(-40°C)/Z(20°C)	5	4	4	3	3
	Φ12.5~Φ16	Z(-25°C)/Z(20°C)	3	2	2	2	2
		Z(-40°C)/Z(20°C)	10	8	6	4	3

### Load Life(+105 °C)

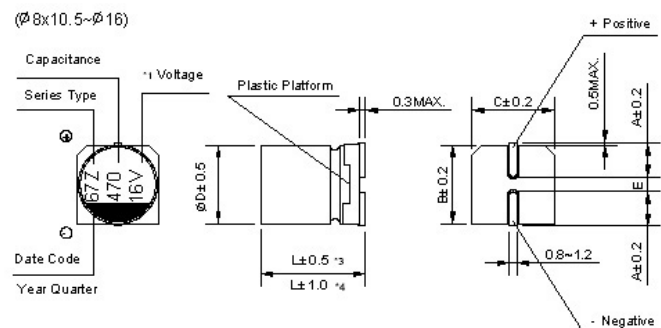
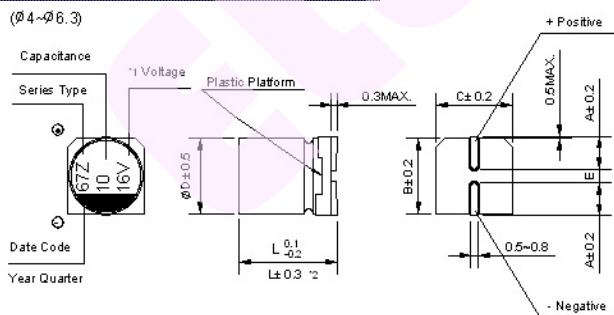
Time	3000 hours (1000 hours' for Φ4~Φ6.3x5.4)
Leakage Current	Not more than the specified value.
Capacitance Change	Within ±25% of the initial value
Dissipation Factor	Not more than 200% of the specified value.

### Shelf Life(+105 °C)

Time	1000 hours
Leakage Current	Not more than the specified value.
Capacitance Change	Within ±15% of the initial value.
Dissipation Factor	Not more than 200% of the specified value.

After test:Rated Voltage to be applied for 30 minutes, 24 to 48 hours before measurement.

### Dimensions : (Unit:MM)



D×L	4×5.4	5×5.4	6.3×5.4	6.3×7.7	8×6.2	8×10.5	10×10.5	10×13.5	12.5×13.5	12.5×16	16×16.5
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2	4.7	4.7	5.5
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	12.8	12.8	16.3
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	12.8	12.8	16.3
E ± 0.2	1.0	1.3	2.2	2.2	2.2	3.1	4.4	4.4	4.4	4.4	6.7
L	5.4	5.4	5.4	7.7	6.2	10.5	10.5	13.5	13.5	16.0	16.5

## Elecsound Technology Company Limited

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Frequency Correction Factor of Rated Ripple Current

Frequency		50Hz	120Hz	300Hz	1kHz	10kHz~
Capacitance (μF)						
Φ4~Φ10	1~68	0.35	0.50	0.64	0.83	1.00
	100~2200	0.40	0.55	0.70	0.85	1.00
Φ12.5~Φ16	~688	0.45	0.65	0.80	0.90	1.00
	1000~4700	0.65	0.85	0.95	1.00	1.00

Standard size & Maximum permissible ripple current

WV		6.3			10			16		
		0J			1A			1C		
Cap. (μF)		Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
10	100	-	-	-	-	-	-	4×5.4	1.8	80
15	150	-	-	-	-	-	-	4×5.4	1.8	80
22	220	4×5.4	1.8	80	4×5.4	1.8	80	5×5.4 (4×5.4)	0.76 (1.8)	150 (80)
33	330	5×5.4 (4×5.4)	0.76 (1.8)	150 (80)	5×5.4 (4×5.4)	0.76 (1.8)	150 (80)	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)
47	470	5×5.4 (4×5.4)	0.76 (1.8)	150 (80)	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)
56	560	5×5.4	0.76	150	6.3×5.4	0.44	230	6.3×5.4	0.44	230
68	680	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×7.7	0.34	280
		(5×5.4)	(0.76)	(150)				(6.3×5.4)	(0.44)	(230)
		-	-	-				(8×6.2)	(0.34)	(280)
100	101	6.3×5.4	0.44	230	6.3×7.7	0.34	280	6.3×7.7	0.34	280
		(5×5.4)	(0.76)	(150)	(6.3×5.4)	(0.44)	(230)	(6.3×5.4)	(0.44)	(230)
		-	-	-	(8×6.2)	(0.34)	(280)	(8×6.2)	(0.34)	(280)
150	151	6.3×5.4	0.44	230	6.3×7.7	0.34	280	6.3×7.7	0.34	280
220	221	6.3×7.7	0.34	280	6.3×7.7	0.34	280	8×10.5	0.17	450
		(6.3×5.4)	(0.44)	(230)	(8×6.2)	(0.34)	(280)	(6.3×7.7)	(0.34)	(280)
		(8×6.2)	(0.34)	(280)	-	-	-	-	-	-
330	331	6.3×7.7	0.34	280	8×10.5	0.17	450	10×10.5	0.09	670
		(8×6.2)	(0.34)	(280)				(8×10.5)	(0.17)	(280)
470	471	8×10.5	0.17	450	8×10.5	0.17	450	10×10.5	0.09	670
		-	-	-				(8×10.5)	(0.17)	(450)
680	681	10×10.5	0.09	670	10×10.5	0.09	670	10×13.5	0.075	800
		(8×10.5)	(0.17)	(450)				(10×10.5)	(0.09)	(670)
1000	102	10×10.5	0.09	670	10×10.5	0.09	670	16×16.5	0.055	1350
		(8×10.5)	(0.17)	(450)				(12.5×16)	(0.06)	(1050)
		-	-	-				(12.5×13.5)	(0.065)	(900)
1500	152	10×13.5	0.075	800	12.5×13.5	0.065	900	16×16.5	(0.055)	1350
		(10×10.5)	(0.09)	(670)				-	-	-
2200	222	12.5×13.5	0.065	900	12.5×16	0.06	1050	16×16.5	(0.055)	1350
3300	332	12.5×16	0.06	1050	16×16.5	0.055	1350	-	-	-
4700	472	16×16.5	0.055	1350	-	-	-	-	-	-

Maximum Impedance (Ω) at 20°C 100kHz, Ripple Current (mA rms) at 105°C 100kHz

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Standard size & Maximum permissible ripple current

WV		25			35			50		
		1E			1V			1H		
Cap.( $\mu$ F)		Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
4.7	4R7	-	-	-	4 $\times$ 5.4	1.8	80	5 $\times$ 5.4	1.52	85
		-	-	-				(4 $\times$ 5.4)	(3.0)	(60)
10	100	4 $\times$ 5.4	1.8	80	5 $\times$ 5.4	0.76	150	6.3 $\times$ 5.4	0.88	165
		-	-	-	(4 $\times$ 5.4)	(1.8)	(80)	(5 $\times$ 5.4)	(1.52)	(85)
15	150	5 $\times$ 5.4	0.76	150	5 $\times$ 5.4	0.76	150	6.3 $\times$ 5.4	0.88	165
		6.3 $\times$ 5.4	0.44	230	6.3 $\times$ 5.4	0.44	230	6.3 $\times$ 7.7	0.68	185
22	220	(5 $\times$ 5.4)	(0.76)	(150)	(5 $\times$ 5.4)	(0.76)	(150)	(6.3 $\times$ 5.4)	(0.88)	(165)
		-	-	-	-	-	-	(8 $\times$ 6.2)	(0.68)	(185)
33	330	6.3 $\times$ 5.4	0.44	230	6.3 $\times$ 5.4	0.44	230	6.3 $\times$ 7.7	0.68	185
		(5 $\times$ 5.4)	(0.76)	(150)	(8 $\times$ 6.2)	(0.34)	(280)	(8 $\times$ 6.2)	(0.68)	(185)
47	470	6.3 $\times$ 7.7	0.34	280	6.3 $\times$ 7.7	0.34	280	6.3 $\times$ 7.7	0.68	185
		(6.3 $\times$ 5.4)	(0.44)	(230)	(6.3 $\times$ 5.4)	(0.44)	(230)	(8 $\times$ 6.2)	(0.68)	(185)
56	560	(8 $\times$ 6.2)	(0.34)	(280)	(8 $\times$ 6.2)	(0.34)	(280)	-	-	-
		6.3 $\times$ 7.7	0.34	280	6.3 $\times$ 7.7	0.34	280	8 $\times$ 10.5	0.34	350
68	680	(6.3 $\times$ 5.4)	(0.44)	(230)	-	-	-	(6.3 $\times$ 7.7)	(0.68)	(185)
		6.3 $\times$ 7.7	0.34	280	6.3 $\times$ 7.7	0.34	280	8 $\times$ 10.5	0.34	350
100	101	6.3 $\times$ 7.7	0.34	280	8 $\times$ 10.5	0.17	450	10 $\times$ 10.5	0.18	670
		(8 $\times$ 6.2)	(0.34)	(280)				(8 $\times$ 10.5)	(0.34)	(350)
150	151	8 $\times$ 10.5	0.17	450	10 $\times$ 10.5	0.09	670	10 $\times$ 10.5	0.18	670
		(6.3 $\times$ 7.7)	(0.34)	(280)	-	-	-	-	-	-
220	221	8 $\times$ 10.5	0.17	450	10 $\times$ 10.5	0.09	670	10 $\times$ 13.5	0.16	750
		-	-	-	-	-	-	(10 $\times$ 10.5)	(0.18)	(670)
330	331	10 $\times$ 10.5	0.09	670	10 $\times$ 10.5	0.09	670	12.5 $\times$ 13.5	0.14	800
		(8 $\times$ 10.5)	(0.17)	(450)				-	-	-
470	471	10 $\times$ 13.5	0.075	800	12.5 $\times$ 13.5	0.065	900	16 $\times$ 16.5	0.1	1150
		(10 $\times$ 10.5)	(0.09)	(670)	(10 $\times$ 13.5)	(0.075)	(800)	(12.5 $\times$ 16)	(0.12)	(900)
680	681	12.5 $\times$ 13.5	0.065	900	12.5 $\times$ 16	0.06	1050	-	-	-
		-	-	-	(12.5 $\times$ 13.5)	(0.065)	(900)	-	-	-
1000	102	16 $\times$ 16.5	0.055	1350	16 $\times$ 16.5	0.055	1350	-	-	-
		(12.5 $\times$ 16)	(0.06)	(1050)				-	-	-
1500	152	16 $\times$ 16.5	0.055	1350	-	-	-	-	-	-

Maximum Impedance ( $\Omega$ ) at 20 $^{\circ}$ C 100kHz, Ripple Current (mA rms) at 105 $^{\circ}$ C 100kHz