

# Surface Mount Aluminum Electrolytic

# CZ [ For Low Impedance ]

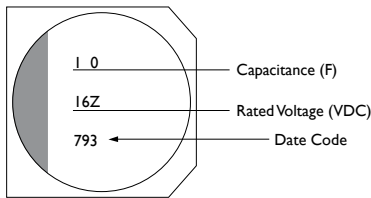


## FEATURE

For Low ESR Series with 105°C 1000 Hours

Suitable for AV (TV, Video, Audio), Monitor / Computer, Battery Charger, DC / DC Converter, SMPS, Noise Filter

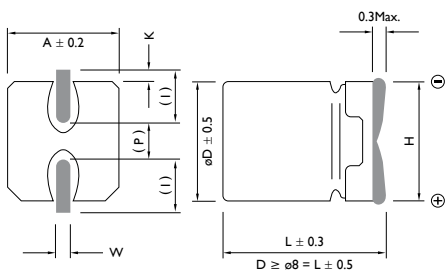
## MARKING



## ELECTRICAL CHARACTERISTICS

Operation Temperature Range	-40 to +105°C							
Rated Voltage Range	4 to 50VDC							
Rated Capacitance Range	0.1 ~ 1000μF							
Capacitance Tolerance	±20% at 120Hz, 20°C							
Leakage Current (Max.20°C)	I ≤ 0.01CV (μA) or 3μA (After 2 Minutes Application of DC Rated Voltage at 20°C) I = Leakage Current (μA), C = Rated Capacitance (μF), V = Rated Voltage (V)							
Low Temperature Stability	Impedance Ratio at 120Hz							
	WV (V)	4	6.3	10	16	25	35	50
	Z (-25°C) / Z (+20°C)	4	2	2	2	2	2	2
	Z (-40°C) / Z (+20°C)	8	4	4	3	3	3	3
Endurance	After 1000 hours application of WV at 105°C, the capacitors shall meet following requirements. (a) Capacitance Change: Within ±20% of the Initial Value (b) Dissipation Factor: Not Exceeding 200% of Specified Value (c) Leakage Current: Not Exceeding the Specified Value							
Shelf Life	After having been placed at 105°C without voltage applied for 1000 hours, the capacitors shall meet the same requirements as Endurance.							

## DIMENSIONS



( ) Reference Size

Unit: mm

SIZE CODE	Dø	L	A	H	I	W	P	K
B	4.0	5.4	4.3	5.5 Max.	1.8	0.65 ± 0.1	1.0 ± 0.2	0.35 <sup>+ 0.15</sup> <sub>- 0.20</sub>
C	5.0	5.4	5.3	6.5 Max.	2.2	0.65 ± 0.1	1.5 ± 0.2	0.35 <sup>+ 0.15</sup> <sub>- 0.20</sub>
D	6.3	5.4	6.6	7.8 Max.	2.6	0.65 ± 0.1	1.8 ± 0.2	0.35 <sup>+ 0.15</sup> <sub>- 0.20</sub>
E	8.0	6.5	8.3	9.5 Max.	3.4	0.65 ± 0.1	2.2 ± 0.2	0.35 <sup>+ 0.15</sup> <sub>- 0.20</sub>
F	8.0	10.5	8.3	10.0 Max.	3.4	0.90 ± 0.2	3.1 ± 0.2	0.70 ± 0.20
G	10.0	10.5	10.3	12.0 Max.	3.5	0.90 ± 0.2	4.6 ± 0.2	0.70 ± 0.20
H	6.3	7.7	6.6	7.8 Max.	2.6	0.65 ± 0.1	1.8 ± 0.2	0.35 <sup>+ 0.15</sup> <sub>- 0.20</sub>

**CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS**

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)							
	4 (5) SIZE				6.3 (8) SIZE			
	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	ESR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	ESR
4.7	4 x 5.4	60	0.35	4.00				
6.8	4 x 5.4	60	0.35	4.00				
10	4 x 5.4	60	0.35	4.00				
22	4 x 5.4	60	0.35	4.00	4 x 5.4	60	0.26	4.00
33	4 x 5.4	60	0.35	4.00	5 x 5.4	95	0.26	2.60
47	4 x 5.4	60	0.35	4.00	5 x 5.4	95	0.26	2.60
68	4 x 5.4	60	0.35	4.00	6.3 x 5.4	140	0.26	1.30
100	5 x 5.4	95	0.35	3.00	6.3 x 5.4	140	0.26	1.30
150	6.3 x 5.4	140	0.35	2.60	8 x 6.5	230	0.35	0.80
220	6.3 x 5.4	140	0.35	2.60	8 x 6.5	230	0.35	0.80
330					8 x 10.5	450	0.35	0.50
470					10 x 10.5	670	0.35	0.30
1000					10 x 10.5	670	0.35	0.30

Note: 1. Ripple Current: (mA/rms) 105°C, 100KHz

2. Dissipation Factor: 20°C, 120Hz

3. ESR: 20°C, 100KHz (Ω)



## CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)							
	10 (13) SIZE				16 (20) SIZE			
	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	ESR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	ESR
4.7					4 x 5.4	60	0.16	4.00
6.8					4 x 5.4	60	0.16	4.00
10	4 x 5.4	60	0.22	4.00	4 x 5.4	60	0.16	4.00
22	5 x 5.4	95	0.22	2.60	5 x 5.4	95	0.16	2.60
33	5 x 5.4	95	0.22	2.60	5 x 5.4	95	0.16	2.60
47	6.3 x 5.4	95	0.22	1.30	6.3 x 5.4	140	0.16	1.30
68	6.3 x 5.4	140	0.22	1.30	8 x 6.5	230	0.20	0.80
100	6.3 x 5.4	140	0.22	1.30	8 x 6.5	230	0.20	0.80
150	8 x 6.5	230	0.26	0.80	10 x 10.5	450	0.20	0.50
220	8 x 6.5	230	0.26	0.80	10 x 10.5	450	0.20	0.50
330	8 x 10.5	450	0.26	0.50	10 x 10.5	670	0.20	0.30
470	10 x 10.5	670	0.26	0.30	10 x 10.5	670	0.20	0.30
1000	10 x 10.5	670	0.26	0.30				

Note: 1. Ripple Current: (mA/rms) 105°C, 100KHz

2. Dissipation Factor: 20°C, 120Hz

3. ESR: 20°C, 100KHz (Ω)

**CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS**

D x L: mm

CAP. ( $\mu$ F)	RATED VOLTAGE WV (SURGE VOLTAGE WV)												
	25 (32)				35 (44)				50 (63)				
	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	ESR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	ESR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	ESR	
0.10									4 x 5.4	60		0.12	5.00
0.22									4 x 5.4	60		0.12	5.00
0.33									4 x 5.4	60		0.12	5.00
0.47									4 x 5.4	60		0.12	5.00
1.0					4 x 5.4	60	0.12	4.00	4 x 5.4	60		0.12	5.00
2.2					4 x 5.4	60	0.12	4.00	4 x 5.4	60		0.12	5.00
3.3					4 x 5.4	60	0.12	4.00	4 x 5.4	60		0.12	5.00
4.7	4 x 5.4	60	0.14	4.00	4 x 5.4	60	0.12	4.00	5 x 5.4	95		0.12	4.00
6.8	4 x 5.4	60	0.14	4.00	5 x 5.4	95	0.12	2.60	6.3 x 5.4	140		0.12	2.60
10	5 x 5.4	95	0.14	2.60	5 x 5.4	95	0.12	2.60	6.3 x 5.4	140		0.12	2.60
22	6.3 x 5.4	140	0.14	1.30	6.3 x 5.4	140	0.12	1.30	8 x 6.5	230		0.12	1.30
33	6.3 x 5.4	140	0.14	1.30	8 x 6.5	230	0.14	0.80	8 x 10.5	300		0.12	1.10
47	6.3 x 5.4	140	0.14	1.30	8 x 6.5	230	0.14	0.80	10 x 10.5	670		0.12	0.80
68	8 x 10.5	450	0.16	0.50	8 x 10.5	450	0.14	0.50	10 x 10.5	670		0.12	0.80
100	8 x 10.5	450	0.16	0.50	10 x 10.5	670	0.14	0.30	10 x 10.5	670		0.12	0.80
150	10 x 10.5	670	0.16	0.30	10 x 10.5	670	0.14	0.30					
220	10 x 10.5	670	0.16	0.30	10 x 10.5	670	0.14	0.30					

Note: 1. Ripple Current: (mA/rms) 105°C, 100KHz

2. Dissipation Factor: 20°C, 120Hz

3. ESR: 20°C, 100KHz ( $\Omega$ )