

TZ Series

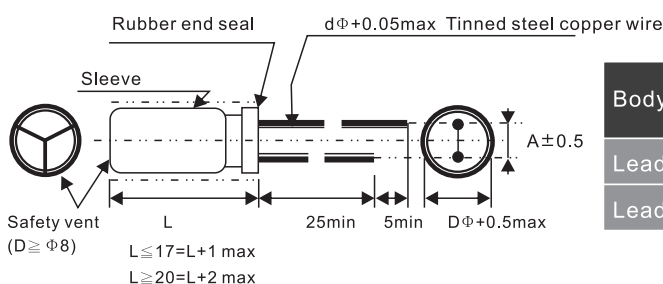
- 105°C, 4000~7000 hours LOW ESR series (紋波疊加)
- 採用了新型高穩定、低電阻電解液、實現了低ESR低阻抗



● SPECIFICATIONS

Items	Characteristics									
Category Temperature Range	- 40 to +105°C									
Rated Voltage Range	6.3V to 100 Vdc									
Capacitance Tolerance	± 20% (M) (at 20°C , 120Hz)									
Leakage Current	I=0.01CV or 3 μA , whichever is greater. Where, I :Max. Leakage current (μA). C : Nominal capacitance (μF) .V :Rated voltage(V) (at 20°C , after 2 minutes)									
Dissipation Factor (tan δ)	Rated voltage (Vdc)	6.3V	10V	16V	25V	35V	50V	63V	100V	
	tan δ (Max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.08	0.08	
	For capacitance>1000uF.and 2% per another 1000uF (at 20°C , 120Hz)									
Low Temperature Characteristics	Impedance ration max at 120Hz									
	Working voltage	6.3v	10v	16v	25v	35v	50v	63v	100v	
	Z-25°C/ Z+20°C	4	3	3	3	3	3	2	2	
	Z-40°C/ Z+20°C	8	6	4	3	3	3	3	3	
Load. Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after the voltage is applied for the specific at 105°C									
	Capacitance change	≤ ±20% of the initial value						φ D	load life	
	DF (tan δ)	≤ 200 % of the initial specified value						φ 5-6.3	4000	
	Leakage current	≤ The initial specified value						φ 8	4000	
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours at 105°C without voltage applied.									
	Capacitance change	≤ ±20% of the initial value						φ 10	5000	
	DF (tan δ)	≤ 200 % of the initial specified value						φ 13~	7000	
	Leakage current	≤ The initial specified value								
Ripple Current Multiplier	Temperature coefficient									
	Temperature(°C)	~55	60	70	85	105				
	Factor	2.20	2.10	2.00	1.75	1.00				
	Frequency coefficient									
	cap	freq	60	120	1k	10k	100k			
	~100		0.30	0.40	0.75	0.90	1.00			
100~1000		0.40	0.50	0.85	0.94	1.00				
1000up		0.50	0.75	0.90	0.95	1.00				

● Diagram: (Unit: mm)



Body Dia ΦD	5	6	8	10	13		16	18
					L ≤ 21	L ≥ 25		
Lead Dia Φd	0.5			0.6	0.6	0.8	0.8	0.8
Lead Space A	2	2.5	3.5	5			7.5	7.5/10

Chip Type SMD

Miniature Type

General Purpose

High Frequency
Low Impedance

High Voltage
High Reliability

Non-polar Type

Large Size
Snap-in

Large Size
Screw

X Metallized
Polypropylene
Film Capacitors

● STANDARD RATING

Cap(μF)	Item	6.3v			10v		
		Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)	Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)
100		5*11	180	0.75	5*11	180	0.75
150		5*11	180	0.75	6.3*11	300	0.275
220		6.3*11	300	0.23	6.3*11	300	0.275
330		8*12	560	0.16	6.3*11 8*12	450 560	0.22 0.13
470		8*12	560	0.16	8*12	560	0.13
680		8*12	620	0.12	8*16	740	0.085
820		8*16	730	0.11	8*16	960	0.075
1000		8*16 10*17	730 780	0.103 0.103	8*20 10*20	920 1050	0.090 0.060
1200		10*17	1050	0.075	10*20	1300	0.046
1500		10*20	1220	0.060	10*20	1330	0.042
1650		10*25	1280	0.055	10*25	1410	0.042
2200		10*25 13*21	1450 1560	0.055 0.046	10*25 13*21	1550 1650	0.042 0.038
3300		10*30 13*25	1620 1690	0.042 0.042	10*30 13*25	2100 2200	0.035 0.030
4700		13*30	2110	0.046	10*35 13*30	2300 2380	0.028 0.020
5600		16*25	2310	0.042	16*25	2400	0.025
6800		16*25	2310	0.036	16*30	2650	0.024
8200		16*32	2650	0.028	18*30	3150	0.020
10000		16*36	2750	0.025	18*36	3190	0.019
12000		18*30	3300	0.026	18*40	3300	0.015
15000		18*36	3350	0.025			

Maximum Ripple Current:(105°C 100KHz)

Maximum Impedance:(20°C 100KHz)



● STANDARD RATING

Cap(μF) Item	Vdc		16v			25v		
	Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)	Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)		
10	5*11	180	0.58	5*11	180	0.55		
22	5*11	180	0.58	5*11	180	0.55		
33	5*11	180	0.58	5*11	180	0.55		
47	5*11	180	0.58	5*11	200	0.55		
68	5*11	180	0.58	6.3*11	300	0.22		
100	6.3*11	300	0.22	6.3*11 8*12	300 400	0.22 0.20		
180	8*12	560	0.22	8*12	560	0.15		
220	8*12	560	0.13	8*12	560	0.15		
330	8*12	560	0.13	8*16 10*13	730 760	0.11 0.105		
470	8*16 10*12	740 750	0.095 0.095	8*20 10*17	920 1050	0.090 0.078		
560	10*17	950	0.087	10*20	1150	0.060		
680	8*20 10*17	950 1050	0.080 0.069	10*20	1200	0.060		
820	10*20	1220	0.046	13*21	1650	0.046		
1000	8*24 10*20	1250 1300	0.055 0.046	10*20 10*30 13*21	1560 1680 1650	0.050 0.040 0.046		
1200	10*20 13*21	1350 1400	0.046 0.042	13*25	1850	0.039		
1500	10*25 13*21	1600 1690	0.042 0.034	13*25	1850	0.039		
1650	10*25	1750	0.030	13*25	1910	0.034		
2200	10*30 13*30	1950 2120	0.030 0.028	16*25	2150	0.029		
3300	13*35 16*25	2250 2100	0.028 0.022	16*32	2460	0.029		
4700	16*30	2690	0.022	18*36	3150	0.025		
6800	16*40	3200	0.017					
10000	18*40	3300	0.015					

Chip Type SMD
Miniature Type
General Purpose
High Frequency Low Impedance
High Voltage High Reliability
Non-polar Type
Large Size Snap-in
Large Size Screw
X Metallized Polypropylene Film Capacitors

Maximum Ripple Current:(105°C 100KHz)
Maximum Impedance:(20°C 100KHz)

● STANDARD RATING

Cap(μF)	Vdc Item	35v			50v		
		Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)	Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)
10		5*11	180	1.300	5*11	160	0.91
22		5*11	180	0.750	5*11	160	0.91
33		5*11	180	0.750	6.3*11	160	0.91
47		6.3*11	300	0.280	6.3*11	260	0.38
56		6.3*11	300	0.280	8*12	480	0.220
68		6.3*11	300	0.280	8*9/8*12	420/480	0.25/0.220
100		8*12	560	0.160	8*12 /10*17	580/660	0.20/0.150
150		8*12	560	0.160	10*17	920	0.105
220		8*14 8*16 10*13	650 730 760	0.113 0.113 0.105	10*20	1050	0.078
330		10*17	1050	0.076	10*25	1200	0.060
470		10*20	1250	0.060	10*25	1300	0.058
560		10*25 13*21	1450 1650	0.055 0.046	13*20	1700	0.046
680		13*21	1650	0.050	13*25	1900	0.041
820		13*25	2050	0.039	16*25	2200	0.036
1000		13*21 13*25	2150	0.034	16*32	2450	0.0315
1200		13*30	2450	0.034	16*32	2600	0.0280
1500		16*25	2550	0.035	16*36	2750	0.0245
2200		16*25 16*30	2850 3050	0.032 0.028	18*36	3200	0.0220
3300		18*36	3650	0.025			
4700		18*40	3950	0.020			

Maximum Ripple Current:(105°C 100KHz)

Maximum Impedance:(20°C 100KHz)



● STANDARD RATING

Vdc Item Cap(μF)	63v			100v		
	Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)	Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)
1	5*11	45	2.900	5*11	48	2.900
2.2	5*11	45	2.900	5*11	48	2.900
3.3	5*11	45	2.900	5*11	48	2.900
4.7	5*11	45	2.900	5*11	48	2.900
10	5*11	45	2.900	6.3*11	100	1.500
22	6.3*11	101	1.500	8*12	200	1.150
33	6.3*11	101	1.500	8*16	240	0.780
47	8*12	200	0.830	10*12 10*17	250	0.550
68	8*12	200	0.830	10*17	310	0.400
100	10*13	280	0.560	10*20	420	0.260
150	10*13	310	0.430	13*20 13*25	580 690	0.230 0.190
220	13*21	605	0.210	13*25	760	0.130
330	13*20 13*25	620 650	0.020 0.190	16*25	1050	0.095
470	13*25	780	0.130	16*36	1570	0.059
680	16*25	1090	0.095	18*36	1590	0.053
820	16*32	1370	0.070	18*40	2020	0.047
1000	16*32	1350	0.070			
1200	18*30	1430	0.061			
1500	18*36	1560	0.052			

Maximum Ripple Current:(105°C 100KHz)
Maximum Impedance:(20°C 100KHz)

Chip Type SMD
Miniature Type
General Purpose
High Frequency
Low Impedance
High Voltage
High Reliability
Non-polar Type
Large Size
Snap-in
Large Size
Screw
X Metallized
Polypropylene
Fime Capacitors