

TK Series

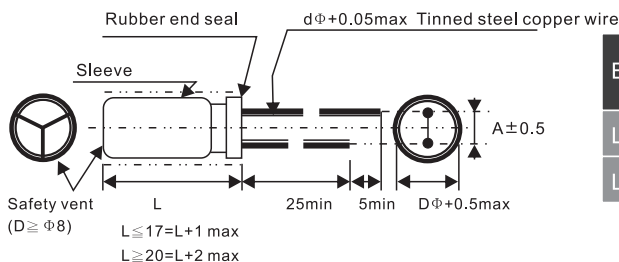
- 105°C, Long life 4000~10000 hours, LOW ESR series (紋波疊加)
- 採用了新型高穩定、低電阻電解液、實現了低ESR低阻抗



• SPECIFICATIONS

Items	Characteristics										
Category	- 40 to +105°C										
Temperature Range											
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	0.09	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	2	2	2	2	2	2	2	2	
	Z-40°C/ Z+20°C	8	6	4	3	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										
	Case Size		ΦD≤6.3		ΦD≤8,10		ΦD≥13				
	Rated Voltage	6.3 ~ 10wv		4000H		6000H		8000H			
		16 ~ 100wv		5000H		7000H		10000H			
	Capacitance change	≤ ±25% of the initial value									
	DF (tan δ)	≤ 200 % of the initial specified value									
Leakage current	≤ The initial specified value										
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									
	DF (tan δ)	≤ 200 % of 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)	Vdc 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)	
				20°C	-10°C			20°C	-10°C
100						5*11	215	0.580	2.300
150		5*11	200	0.570	2.300	6.3*11	230	0.580	2.300
220		6.3*11	300	0.230	0.950	6.3*11	340	0.220	0.870
330		6.3*11	340	0.160	0.870	6.3*11 8*12	380	0.220	0.870
470		8*12	345	0.160	0.580	8*12	640	0.130	0.520
680		8*12	640	0.130	0.520	8*16	845	0.086	0.350
820		8*16	865	0.080	0.320	10*17	1015	0.070	0.280
1000		8*16	870	0.085	0.350	8*20 10*20	1050 1215	0.068 0.060	0.270 0.240
1200		10*17	1215	0.062	0.260	10*20	1410	0.045	0.180
1500		10*20	1410	0.045	0.190	10*25	1610	0.043	0.170
1650		10*25	1450	0.043	0.180	13*21	1650	0.042	0.160
2200		10*25	1650	0.042	0.170	10*30 13*21	1920 1910	0.030 0.035	0.120 0.140
3300		10*30 13*25	1800 1900	0.038 0.034	0.150 0.120	13*25	2230	0.026	0.089
4700		13*30	2450	0.023	0.078	13*35	2890	0.020	0.065
5600		16*25	2540	0.026	0.075	16*25	2940	0.020	0.060
6800		16*25	2750	0.020	0.060	16*32	3460	0.016	0.050
8200		16*32	3150	0.016	0.050	18*32	4080	0.014	0.040
10000		16*36	3460	0.014	0.044	18*36	4150	0.012	0.038
12000		18*32	4020	0.014	0.040	18*40	4290	0.011	0.032
15000		18*40	4210	0.013	0.038				

Maximum Ripple Current:(105°C 100KHz)

Maximum Impedance:(20°C,-10°C 100KHz)



● STANDARD RATING

Cap(μF)	Vdc Item	16v				25v			
		Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)		Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)	
				20°C	-10°C			20°C	-10°C
47					5*11	200	0.570	2.300	
56		5*11	220	0.570	2.300	5*11	240	0.570	2.300
100		6.3*11	310	0.210	0.820	6.3*11	340	0.210	0.870
120		6.3*11	340	0.210	0.870				
220		8*12	510	0.190	0.850	8*12	650	0.120	0.520
330		8*12	650	0.120	0.520	8*16	850	0.087	0.350
470		8*16	840	0.086	0.350	8*16	1050	0.080	0.030
		10*13	865	0.080	0.320	10*17	1210	0.060	0.240
680		8*20	1065	0.069	0.270	10*20	1410	0.045	0.180
		10*17	1210	0.060	0.240				
820		10*20	1310	0.052	0.220	10*25	1660	0.410	0.170
1000		10*20	1410	0.045	0.180	10*30	1920	0.032	0.120
						13*21	1910	0.034	0.132
1200		10*25	1650	0.043	0.170	13*21	2120	0.043	0.110
1500		13*21	1910	0.035	0.120	13*25	2240	0.026	0.089
2200		13*25	2240	0.026	0.089	13*25	2890	0.020	0.065
3300		13*25	2890	0.020	0.066	16*32	3460	0.016	0.050
4700		16*32	3450	0.016	0.050	18*36	4230	0.013	0.038
5600		18*32	4180	0.015	0.040	18*36	4290	0.011	0.032
6800		18*36	4080	0.012	0.038				
8200		18*36	4230	0.014	0.038				
10000		18*40	4290	0.011	0.032				

Maximum Ripple Current:(105°C 100KHz)
Maximum Impedance:(20°C,-10°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

● 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)	
				20°C	-10°C			20°C	-10°C
22						5*11	180	0.700	2.800
33		5*11	220	0.560	2.300	6.3*11	200	0.600	2.500
47		6.3*11	280	0.350	1.400	6.3*11	220	0.380	1.500
56		6.3*11	340	0.210	0.860	6.3*11	300	0.300	1.200
100		8*12	510	0.150	0.560	8*12	560	0.160	0.670
150		8*12	650	0.130	0.520	10*13	770	0.120	0.480
220		8*16	850	0.086	0.350	10*17	1050	0.083	0.340
330		10*17	1210	0.060	0.240	10*25	1450	0.053	0.220
470		10*20	1410	0.045	0.180	13*21	1670	0.044	0.150
560		10*25	1650	0.041	0.160	13*25	1950	0.033	0.120
680		13*21	1910	0.033	0.132	13*30	2320	0.030	0.110
820		13*25	2100	0.028	0.088	16*25	2520	0.027	0.100
1000		13*25	2230	0.028	0.088	16*25	2550	0.025	0.075
1200		13*30	2660	0.023	0.078	16*32	3020	0.021	0.066
1500		13*36	2880	0.020	0.065	16*36	3150	0.018	0.056
2200		16*32 18*25	3500 3140	0.016 0.019	0.050 0.049	18*36	3690	0.017	0.046
3300		18*36	4230	0.014	0.038				

Maximum Ripple Current:(105°C 100KHz)
Maximum Impedance:(20°C,-10°C 100KHz)



● STANDARD RATING

Cap(μF)	Vdc Item	63v				100v			
		Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)		Case size D*L(mm)	Ripple Current (mA/ms)	Impedance (Ω)	
				20°C	-10°C			20°C	-10°C
6.8					5*11	56	2.200	9.200	
10		5*11	56	2.200	9.200	6.3*11	120	1.200	5.000
22		6.3*11	82	2.000	8.000	8*12	180	0.650	2.700
33		6.3*11	120	1.200	5.000	8*14	240	0.520	2.100
47		8*12	190	0.680	3.100	10*13	290	0.430	1.800
56		8*12	235	0.620	2.800	10*17	330	0.320	1.600
68		8*14	270	0.580	2.400	10*17	358	0.300	1.500
82		8*16	310	0.450	2.100	10*20	470	0.210	0.940
100		10*17	320	0.350	1.800	10*25	536	0.200	0.840
150		10*20	420	0.250	1.000	13*21	790	0.140	0.660
220		10*25	531	0.200	0.840	13*30	905	0.100	0.420
330		13*25	790	0.120	0.450	16*32	1250	0.080	0.300
470		13*30	910	0.100	0.420	16*36	1640	0.056	0.210
560		16*25	1190	0.073	0.27	18*32	1860	0.040	0.150
680		16*32	1250	0.070	0.300	18*36	1970	0.040	0.150
820		16*32	1490	0.053	0.200	18*40	2340	0.036	0.130
1000		16*36 18*32	1640 1640	0.045 0.045	0.170 0.170				
1200		18*36	1790	0.040	0.150				
1500		18*40	2340	0.035	0.130				

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,-10°C 100KHz)