

**TC**

Low impedance · Long life Series

- Endurance: 105°C 6000~10000hours
- Recommended Applications :Applicable forAV(TV,Video,Audio),  
OA/HA/Communication, SMPS, Adapter,Monitor/Computer,Converter/Inverter
- Corresponding product to RoHS

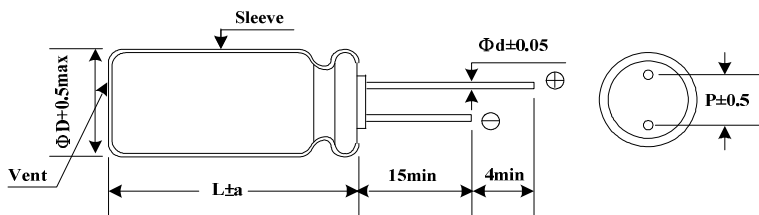
**TC**  
↑  
**TB** Long Life



**■ SPECIFICATIONS**

Item	Characteristics									
Category Temperature Range	-40 ~ +105°C									
Rated Voltage Range	6.3~100VDC									
Rated Capacitance Range	8.2 ~ 8200 $\mu$ F									
Capacitance Tolerance	$\pm 20\%$ (120Hz, 20°C)									
Leakage Current (20°C)	I=0.01CV or 3 $\mu$ A whichever is greater. (After rated voltage applied for 2 minutes) I : Max. leakage current ( $\mu$ A), C : Nominal capacitance ( $\mu$ F), V : Rated voltage (V)									
Dissipation Factor(MAX) (tan $\delta$ ) (120Hz, 20°C)	WV	6.3	10	16	25	35	50	63	80	100
	tan $\delta$	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.08
When nominal capacitance is over 1000 $\mu$ F, tan $\delta$ shall be added 0.02 to the listed value with increase of every 1000 $\mu$ F.										
Low Temperature Stability Impedance Ratio (MAX)	WV	6.3	10	16	25	35	50	63	80	100
	Z(120Hz)	6.3	10	16	25	35	50	63	80	100
	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2	2
	Z-40°C / Z+20°C	8	6	4	3	3	3	3	3	3
Endurance	After applying rated voltage with rated ripple current for 6000~10000hours at 105°C, the capacitors shall meet the following requirements.									
	Capacitance change	Within $\pm 25\%$ of initial value(6.3 · 10V : $\pm 30\%$ )								
	D.F. (tan $\delta$ )	Not more than 200% of specified value								
	Leakage current	initial specified value or less								
	D $\Phi$	5-6.3 $\Phi$	8 $\Phi$	10~18 $\Phi$						
Life	6000hrs	8000hrs	10000hrs							
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied.									

**■ Dimensions [mm]**



ΦD	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0

**■ Multiplier for Ripple Current**

Freq. (Hz)	120	1K	10K	100K
8.2 ~ 33	0.42	0.70	0.90	1.00
47 ~ 270	0.50	0.73	0.92	1.00
330 ~680	0.55	0.77	0.94	1.00
820 ~ 1800	0.60	0.80	0.96	1.00
2200 ~8200	0.70	0.85	0.98	1.00

■ STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size Φ DxL(mm)	Ripple current (mA/rms105°C) (100KHz)	Impedance (Ω,20°C) (100KHz)	Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size Φ DxL(mm)	Ripple current (mA/rms105°C) (100KHz)	Impedance (Ω,20°C) (100KHz)	
6.3V (8)	220	5x11	345	0.242	35V (44)	220	8x12	945	0.056	
	470	6.3x11	540	0.103		270	8x16	1250	0.050	
	820	8x12	945	0.062		330	10x12.5	1330	0.041	
	1200	8x16	1250	0.050		390	8x20	1500	0.032	
		10x12.5	1330	0.043		470	10x16	1760	0.030	
	1500	8x20	1500	0.032		560	10x20	1960	0.025	
	1800	10x16	1760	0.031		680	10x25	2250	0.023	
	2200	10x20	1960	0.022		1000	13x20	2480	0.025	
	2700	10x25	2250	0.020		1200	13x25	2900	0.022	
	3900	13x20	2480	0.019		1500	13x30	3450	0.018	
	4700	13x25	2900	0.017			16x20	3250	0.020	
	5600	13x30	3450	0.014		1800	13x35	3570	0.018	
	6800	16x20	3250	0.017		2200	16x25	3630	0.015	
		13x35	3570	0.013						
8200	16x25	3630	0.014							
10V (13)	150	5x11	345	0.242	50V (63)	27	5x11	238	0.3400	
	330	6.3x11	540	0.103		56	6.3x11	385	0.1400	
	680	8x12	945	0.062		100	8x12	724	0.074	
	1000	8x16	1250	0.050		120	8x16	950	0.061	
		10x12.5	1330	0.043		150	10x12.5	979	0.061	
	1500	8x20	1500	0.032		180	8x20	1190	0.046	
		10x16	1760	0.031		220	10x16	1370	0.042	
	1800	10x20	1960	0.022		270	10x20	1580	0.030	
	2200	10x25	2250	0.020		330	10x25	1870	0.028	
	3300	13x20	2480	0.019		470	13x20	2050	0.027	
	3900	13x25	2900	0.017		560	13x25	2410	0.023	
	4700	13x30	3450	0.014		680	13x30	2860	0.021	
		16x20	3250	0.017		820	13x35	2960	0.019	
	5600	13x35	3570	0.013			16x20	2730	0.023	
6800	16x25	3630	0.014	1000	16x25	3010	0.021			
16V (20)	100	5x11	345	0.242	63V (79)	18	5x11	173	1.000	
	220	6.3x11	540	0.103		47	6.3x11	278	0.560	
	470	8x12	945	0.062		82	8x12	525	0.264	
	680	8x16	1250	0.050		100	8x16	688	0.192	
		10x12.5	1330	0.043		120	10x12.5	725	0.180	
	1000	8x20	1500	0.032		150	8x20	861	0.144	
		10x16	1760	0.031		180	10x16	998	0.132	
	1500	10x20	1960	0.022		270	10x20	1200	0.094	
	1800	10x25	2250	0.020			13x16	1200	0.098	
	2200	13x20	2480	0.019		330	10x25	1410	0.083	
	2700	13x25	2900	0.017		390	13x20	1570	0.072	
	3300	13x30	3450	0.014		470	13x25	1990	0.052	
		16x20	3250	0.017		560	13x30	2410	0.042	
	3900	13x35	3570	0.013			16x20	2100	0.052	
4700	16x25	3630	0.014	680	13x35	2620	0.040			
25V (32)	68	5x11	345	0.242	80V (100)	12	5x11	163	1.400	
	150	6.3x11	540	0.103		33	6.3x11	267	0.570	
	330	8x12	945	0.062		56	8x12	462	0.360	
	390	8x16	1250	0.050		68	8x16	585	0.250	
	470	10x12.5	1330	0.043		82	10x12.5	624	0.230	
	560	8x20	1500	0.032		100	8x20	735	0.190	
	680	10x16	1760	0.031			120	10x16	780	0.170
	820	10x20	1960	0.022		180	10x20	1040	0.120	
	1000	10x25	2250	0.020			13x16	975	0.130	
	1500	13x20	2480	0.019						
	1800	13x25	2900	0.017						
	2200	13x30	3450	0.014						
		16x20	3250	0.017						
	2700	13x35	3570	0.013						
3300	16x25	3630	0.014							
35V (44)	47	5x11	345	0.2200						
	100	6.3x11	540	0.094						

■ STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap ( $\mu$ F)	Case size $\Phi$ D $\times$ L(mm)	Ripple current (mA/rms105°C) (100KHz)	Impedance ( $\Omega$ ,20°C) (100KHz)
80V (100)	220	10x25	1170	0.110
	270	13x20	1430	0.085
	330	13x25	1620	0.060
	390	13x30	1950	0.051
		16x20	1750	0.058
	470	13x35	2140	0.043
	560	13x40	2340	0.036
		16x25	2210	0.044
		18x20	1950	0.054
	680	16x32	2400	0.033
	820	16x36	2600	0.029
		18x25	2270	0.038
	1000	16x40	2860	0.027
		18x32	2470	0.031
1200	18x36	2860	0.027	
1500	18x40	3510	0.026	
100V (125)	8.2	5x11	163	1.400
	18	6.3x11	267	0.570
	33	8x12	462	0.360
	47	8x16	585	0.250
	56	10x12.5	624	0.230

Rated Voltage (SurageVoltage) (V)	Cap ( $\mu$ F)	Case size $\Phi$ D $\times$ L(mm)	Ripple current (mA/rms105°C) (100KHz)	Impedance ( $\Omega$ ,20°C) (100KHz)
100V (125)	68	8x20	735	0.190
	82	10x16	780	0.170
	100	10x20	1040	0.120
		13x16	975	0.130
	120	10x25	1170	0.110
	150	13x20	1430	0.085
	220	13x25	1620	0.060
	270	13x30	1950	0.051
		16x20	1750	0.058
	330	13x35	2140	0.043
	390	13x40	2340	0.036
		16x25	2210	0.044
		18x20	1950	0.054
	470	16x32	2400	0.033
		18x25	2270	0.038
	560	16x36	2600	0.029
		18x32	2470	0.031
	680	16x40	2860	0.027
		18x36	2860	0.027
	820	18x40	3510	0.026