

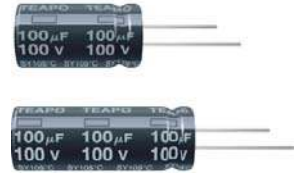
SY

Low impedance · Long life Series

- Features: Low Impedance , high permissible ripple current at high frequency and long life than SC
- Recommended Applications :Used switching regulator applications in computers.
Especially for high frequency.
- Corresponding product to RoHS

SY

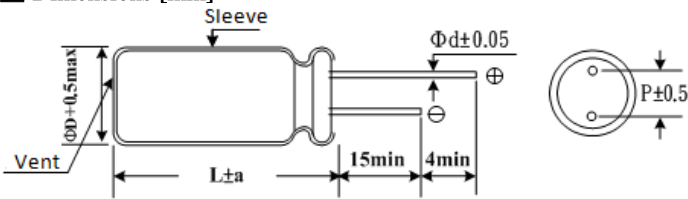
↑ Long Life
SC



SPECIFICATIONS

Item	Characteristics																																				
Category Temperature Range	-40 ~ +105°C																																				
Rated Voltage Range	6.3 ~ 100VDC																																				
Rated Capacitance Range	15 ~ 15000 μF																																				
Capacitance Tolerance	± 20 % (120Hz , 20°C)																																				
Leakage Current (20°C)	I=0.01CV or 3 μ A whichever is greater. (After rated voltage applied for 2 minutes) I : Max. leakage current (μ A), C : Nominal capacitance (μ F), V : Rated voltage (V)																																				
Dissipation Factor(MAX) (tan δ) (120Hz , 20°C)	<table border="1"> <tr> <td>WV</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>tan δ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> </tr> </table> <p>When nominal capacitance is over 1000 μ F, tan δ shall be added 0.02 to the listed value with increase of every 1000 μ F.</p>	WV	6.3	10	16	25	35	50	63	100	tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08																		
WV	6.3	10	16	25	35	50	63	100																													
tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08																													
Low Temperature Stability Impedance Ratio (MAX)	<table border="1"> <tr> <td>WV</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>Z(120Hz)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Z-25°C / Z+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>	WV	6.3	10	16	25	35	50	63	100	Z(120Hz)									Z-25°C / Z+20°C	4	3	2	2	2	2	2	2	Z-40°C / Z+20°C	8	6	4	3	3	3	3	3
WV	6.3	10	16	25	35	50	63	100																													
Z(120Hz)																																					
Z-25°C / Z+20°C	4	3	2	2	2	2	2	2																													
Z-40°C / Z+20°C	8	6	4	3	3	3	3	3																													
Endurance	<p>After applying rated voltage with rated ripple current for 6000 hours at 105°C , the capacitors shall meet the following requirements.</p> <table border="1"> <tr> <td>Capacitance change</td> <td colspan="4">Within ± 25% of initial value</td> </tr> <tr> <td>D.F. (tan δ)</td> <td colspan="4">Not more than 200% of specified value</td> </tr> <tr> <td>Leakage current</td> <td colspan="4">Not more than the specified value</td> </tr> </table> <table border="1"> <tr> <td>DΦ</td> <td>5~6.3 Φ</td> <td>8~10 Φ x12.5</td> <td>10x15~12 Φ</td> <td>13~18 Φ</td> </tr> <tr> <td>life(hours)</td> <td>3000 hrs</td> <td>4000 hrs</td> <td>5000 hrs</td> <td>6000 hrs</td> </tr> </table> <p>*If dimension is down size,Endurance will be less 1000 hours than standard.</p>	Capacitance change	Within ± 25% of initial value				D.F. (tan δ)	Not more than 200% of specified value				Leakage current	Not more than the specified value				DΦ	5~6.3 Φ	8~10 Φ x12.5	10x15~12 Φ	13~18 Φ	life(hours)	3000 hrs	4000 hrs	5000 hrs	6000 hrs											
Capacitance change	Within ± 25% of initial value																																				
D.F. (tan δ)	Not more than 200% of specified value																																				
Leakage current	Not more than the specified value																																				
DΦ	5~6.3 Φ	8~10 Φ x12.5	10x15~12 Φ	13~18 Φ																																	
life(hours)	3000 hrs	4000 hrs	5000 hrs	6000 hrs																																	
Shelf Life	After placed at 105°C without voltage applied for 1000 hours,the capacitors shall meet the same requirement as Endurance.																																				

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	1 K	10 K	100 K
15~ 180 μ F	0.40	0.75	0.90	1.00
220 ~ 560 μ F	0.50	0.85	0.94	1.00
680 ~1800 μ F	0.60	0.87	0.95	1.00
2200 ~ 3900 μ F	0.75	0.90	0.95	1.00
≥ 4700 μ F	0.85	0.95	0.98	1.00

■ STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size Φ DxL(mm)	Ripple current (mA/rms105°C) (100KHz)	Impedance (Ω,20°C) (100KHz)	Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size Φ DxL(mm)	Ripple current (mA/rms105°C) (100KHz)	Impedance (Ω,20°C) (100KHz)
6.3V (8)	150	5x11	210	0.580	16V(20)	120	6.3x11	340.00	0.220
	330	6.3x11	340	0.220		220	6.3x11	469.00	0.185
	470	6.3x11	510	0.160		8x11	582.00	0.150	
	680	8x11	640	0.130		330	8x11	640.00	0.130
	820	10x12.5	865	0.080		470	*8x15	840.00	0.087
	1000	8x15	840	0.087			8x20	950.00	0.078
	1200	8x20	1050	0.069			*10x12.5	865.00	0.080
		10x16	1210	0.060		10x16	1210.00	0.060	
	1500	8x20	1050	0.069		680	8x20	1050.00	0.069
		*10x16	1210	0.060		10x16	1210.00	0.060	
		10x20	1400	0.046		1000	8x20	1050.00	0.069
	1800	13x16	1450	0.049			*10x16	1210.00	0.060
	2200	*10x20	1400	0.046			10x20	1400.00	0.046
		10x25	1650	0.042		13x16	1450.00	0.049	
	2700	10x30	1910	0.031		1200	10x25	1650.00	0.042
		16x16	1940	0.042		1500	10x30	1910.00	0.031
	3300	10x25	1650	0.042			13x20	1900.00	0.035
		13x20	1900	0.035			16x16	1940.00	0.042
	3900	13x25	2230	0.027		2200	13x25	2230.00	0.027
		18x16	2210	0.043		18x16	2210.00	0.043	
4700	13x30	2650	0.024	2700	13x30	2650.00	0.024		
5600	13x35	2880	0.020		16x20	2530.00	0.027		
	16x20	2530	0.027	3300	13x35	2880.00	0.020		
6800	13x40	3350	0.017	3900	13x40	3350.00	0.017		
	16x25	2930	0.021		16x25	2930.00	0.021		
	18x20	2860	0.026		18x20	2860.00	0.026		
8200	16x32	3450	0.017	4700	16x32	3450.00	0.017		
10000	16x36	3610	0.015		18x25	3140.00	0.019		
	18x25	3140	0.017	5600	16x36	3610.00	0.015		
12000	18x32	4170	0.015		18x32	4170.00	0.015		
15000	18x36	4220	0.014	6800	16x40	4080.00	0.013		
10V (13)	100	5x11	210	0.580	8200	18x36	4220.00	0.014	
	220	6.3x11	340	0.220	10000	18x40	4280.00	0.012	
	470	8x11	640	0.130	25V (32)	47	5x11	210.00	0.580
	680	8x15	840	0.087		100	6.3x11	340.00	0.220
	820	10x12.5	865	0.080		150	8x11	640.00	0.160
	1000	8x20	1050	0.069		220	8x11	640.00	0.130
		10x16	1210	0.060		330	8x15	840.00	0.087
	1200	10x20	1400	0.046			10x12.5	865.00	0.080
	1500	10x25	1650	0.042		8x20	1050.00	0.069	
		13x16	1450	0.049		470	*10x12.5	1050.00	0.070
	2200	10x30	1910	0.031			10x16	1210.00	0.060
		13x20	1900	0.042		680	10x20	1400.00	0.046
	16x16	1940	0.042	820		13x16	1450.00	0.049	
	2700	18x16	2210	0.043		1000	10x25	1650.00	0.042
	3300	10x30	1910	0.031			10x30	1910.00	0.031
		13x25	2230	0.027		16x16	1940.00	0.042	
	3900	13x30	2650	0.024		1200	18x16	2210.00	0.043
		16x20	2530	0.027		1500	*13x20	1900.00	0.035
	4700	13x35	2880	0.020			13x25	2230.00	0.027
	5600	13x40	3350	0.017		1800	13x30	2650.00	0.024
16x25		2930	0.021	16x20			2530.00	0.027	
18x20		2860	0.026	2200		13x35	2880.00	0.020	
6800	16x32	3450	0.017		18x20	2860.00	0.026		
	18x25	3140	0.019	2700	13x40	3350.00	0.017		
8200	16x36	3610	0.015		16x25	2930.00	0.021		
	18x32	4170	0.015	3300	16x32	3450.00	0.017		
10000	16x40	4080	0.013		18x25	3140.00	0.019		
	18x36	4220	0.014	3900	18x32	4170.00	0.015		
12000	18x40	4280	0.012	4700	18x36	4220.00	0.014		
16V (20)	56	5x11	210	0.580	5600	18x40	4280.00	0.012	
	100	6.3x11	250	0.230					

* * " is down size , Ripple Life is less 1000 hrs than standard

■ STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105°C) (100KHz)	Impedance (Ω,20°C) (100KHz)	Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105°C) (100KHz)	Impedance (Ω,20°C) (100KHz)	
35V (44)	33	5x11	210	0.580	50V (63)	1200	18x25	2740	0.026	
	47	6.3x11	275	0.390		1500	16x36	3150	0.019	
	56	6.3x11	340	0.220		1800	16x40	3710	0.016	
	68	6.3x11	500	0.170			18x32	3635	0.021	
	82	6.3x11	540	0.160		2200	18x36	3680	0.017	
	100	8x11	580	0.150		2700	18x40	3800	0.014	
	150	8x11	640	0.130	63V (79)	15	5x11	55	2.3	
	220	*8x15	840	0.087		33	6.3x11	115	1.2	
		10x12.5	865	0.080		56	8x12	232	0.63	
	270	8x20	1050	0.069		82	8x15	300	0.45	
		330	*10x16	1210			0.060	10x12.5	288	0.43
	470		10x20	1400		0.046	120	8x20	362	0.33
		560	10x20	1400		0.046		10x16	357	0.31
	680		13x16	1450		0.049	180	10x20	466	0.21
		820	10x25	1650		0.042		13x16	466	0.23
	1000		10x30	1910		0.031	220	10x25	531	0.2
		1200	13x20	1900		0.035	270	10x30	663	0.15
	1500		16x16	1940		0.042		13x20	690	0.16
		1800	13x20	1900		0.035	16x16	795	0.14	
	2200		13x25	2230		0.027	330	13x25	784	0.12
		2700	18x16	2210		0.043		390	18x16	920
	3300		13x30	2650		0.024	470	13x30	905	0.1
		3900	16x20	2530		0.027		16x20	1040	0.091
	50V (63)		22	5x11		180	0.700	100V (125)	15	6.3x11
33		6.3x11	245	0.490		27	8x12		232	0.63
47		6.3x11	300	0.520		39	8x15		300	0.45
56		6.3x11	295	0.300		47	10x12.5		288	0.43
100		8x11	555	0.170		56	8x20		362	0.33
120		8x15	730	0.120		68	10x16		357	0.31
150		10x12.5	760	0.120		82	10x20		466	0.21
180		8x20	910	0.091	13x16		466		0.23	
220		10x16	1050	0.084	100	10x25	531		0.2	
270		10x20	1220	0.060		120	10x30		663	0.15
		13x16	1260	0.061	13x20		690		0.16	
330		*10x20	1400	0.058	150	16x16	795		0.14	
		10x25	1440	0.055		180	13x25		784	0.12
470		10x30	1690	0.043	18x16		920		0.12	
		560	13x20	1660	0.045	220	13x30		905	0.1
680			16x16	1690	0.055		16x20		1040	0.091
		820	13x25	1950	0.034	270	13x35		1050	0.083
1000			18x16	1930	0.054		16x25		1250	0.073
		1200	13x30	2310	0.030	330	13x40		1180	0.071
1500			13x35	2510	0.025		18x20		1240	0.08
		1800	16x20	2210	0.034	390	16x32		1570	0.054
2200			13x40	2920	0.021		18x25		1490	0.057
		2700	16x25	2555	0.025	470	16x36		1790	0.045
3300			18x20	2490	0.036		18x32		1630	0.047
	3900	16x32	3010	0.022	560	16x40	2020	0.04		
					680	18x36	1790	0.04		
				820	18x40	2330	0.036			

" * " is down size , Ripple Life is less 1000 hrs than standard