

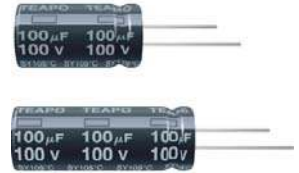
SY

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

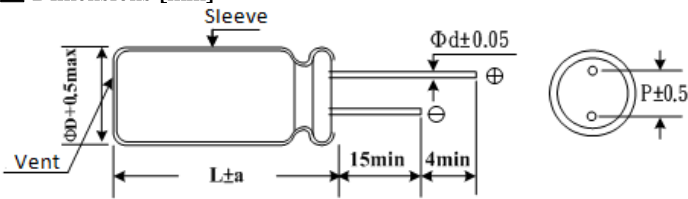
↑ Long Life
SC



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		470	8x20	1050.00	0.069
		13x16	1450	0.049			*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		13x16	1450.00	0.049	
	2700	18x16	2210	0.043		820	10x25	1650.00	0.042
	3300	10x30	1910	0.031		1000	10x30	1910.00	0.031
		13x25	2230	0.027			13x20	1900.00	0.035
	3900	13x30	2650	0.024			16x16	1940.00	0.042
		16x20	2530	0.027		1200	18x16	2210.00	0.043
	4700	13x35	2880	0.020		1500	*13x20	1900.00	0.035
	5600	13x40	3350	0.017		1800	13x25	2230.00	0.027
16x25		2930	0.021	13x30			2650.00	0.024	
18x20		2860	0.026	16x20		2530.00	0.027		
6800	16x32	3450	0.017	2200	13x35	2880.00	0.020		
	18x25	3140	0.019		18x20	2860.00	0.026		
8200	16x36	3610	0.015	2700	13x40	3350.00	0.017		
	18x32	4170	0.015		16x25	2930.00	0.021		
10000	16x40	4080	0.013	3300	16x32	3450.00	0.017		
	18x36	4220	0.014		18x25	3140.00	0.019		
12000	18x40	4280	0.012	3900	18x32	4170.00	0.015		
16V (20)	56	5x11	210	0.580	4700	18x36	4220.00	0.014	
	100	6.3x11	250	0.230	5600	18x40	4280.00	0.012	

" * " 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
	470		10x20	1400		0.046	120	8x20	362
		13x16	1450	0.049		10x16		357	0.31
	560	10x25	1650	0.042		180	10x20	466	0.21
		680	10x30	1910			0.031	13x16	466
	13x20		1900	0.035		220	10x25	531	0.2
	16x16		1940	0.042			270	10x30	663
	820	13x20	1900	0.035		13x20		690	0.16
		1000	13x25	2230		0.027	16x16	795	0.14
	1200		18x16	2210		0.043	330	13x25	784
		1500	13x30	2650		0.024		390	18x16
	1800		16x20	2530		0.027	470	13x30	905
		2200	13x35	2880		0.020		16x20	1040
	2700		13x40	3350		0.017	560	13x35	1050
3300		16x25	2930	0.021		16x25		1250	0.073
	3900	18x20	2860	0.026		680	13x40	1180	0.071
2200		16x32	3450	0.017			18x20	1240	0.08
	2700	18x25	3140	0.019		820	16x32	1570	0.054
3300		16x36	3610	0.015			18x25	1490	0.057
	3900	18x32	4170	0.015		1000	16x36	1790	0.045
16x40		4080	0.013	18x32	1630		0.047		
50V (63)	22	5x11	180	0.700	1200	16x40	2020	0.04	
	33	6.3x11	245	0.490	100V (125)	15	6.3x11	115	1.2
	47	6.3x11	300	0.520		27	8x12	232	0.63
	56	6.3x11	295	0.300		39	8x15	300	0.45
	100	8x11	555	0.170		47	10x12.5	288	0.43
	120	8x15	730	0.120		56	8x20	362	0.33
	150	10x12.5	760	0.120		68	10x16	357	0.31
	180	8x20	910	0.091		82	10x20	466	0.21
	220	10x16	1050	0.084			13x16	466	0.23
	270	10x20	1220	0.060		100	10x25	531	0.2
		13x16	1260	0.061			120	10x30	663
	330	*10x20	1400	0.058		13x20		690	0.16
		10x25	1440	0.055		150	16x16	795	0.14
	470	10x30	1690	0.043			180	13x25	784
		13x20	1660	0.045		18x16		920	0.12
	560	16x16	1690	0.055		220	13x30	905	0.1
		13x25	1950	0.034			16x20	1040	0.091
	680	18x16	1930	0.054		270	13x35	1050	0.083
		13x30	2310	0.030			16x25	1250	0.073
	820	13x35	2510	0.025		330	13x40	1180	0.071
		16x20	2210	0.034			18x20	1240	0.08
	1000	13x40	2920	0.021		390	16x32	1570	0.054
		16x25	2555	0.025			18x25	1490	0.057
	1200	18x20	2490	0.036		470	16x36	1790	0.045
16x32		3010	0.022	18x32			1630	0.047	
				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