

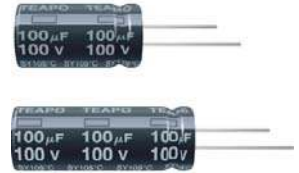
**SY**

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**

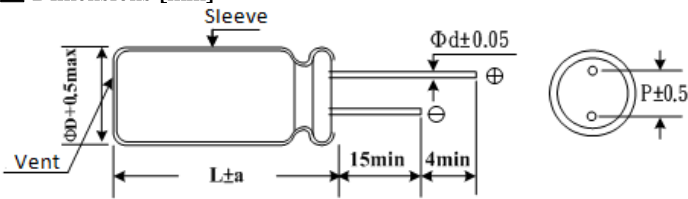
↑ Long Life  
SC



**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)	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
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.		
Low Temperature Stability Impedance Ratio (MAX)	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	After applying rated voltage with rated ripple current for 6000 hours at 105°C , the capacitors shall meet the following requirements.	
	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	
*If dimension is down size,Endurance will be less 1000 hours than standard.		
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		1000	10x16	1210.00	0.060
		10x20	1400	0.046			8x20	1050.00	0.069
	1800	13x16	1450	0.049		1000	*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		2700	18x16	2210.00	0.043
4700	13x30	2650	0.024	13x30	2650.00		0.024		
5600	13x35	2880	0.020	3300	16x20	2530.00	0.027		
	16x20	2530	0.027		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	5600	18x25	3140.00	0.019		
	18x25	3140	0.017		16x36	3610.00	0.015		
12000	18x32	4170	0.015	5600	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
	820		13x20	1900		0.035	220	10x25	531
		16x16	1940	0.042		270		10x30	663
	1000	13x20	1900	0.035			13x20	690	0.16
		1200	13x25	2230		0.027	16x16	795	0.14
	1500		18x16	2210		0.043	330	13x25	784
		1800	13x30	2650		0.024		18x16	920
	2200		16x20	2530		0.027	390	13x30	905
		2700	13x35	2880		0.020		16x20	1040
	3300		13x40	3350		0.017	560	13x35	1050
3900		16x25	2930	0.021		16x25		1250	0.073
	50V (63)	22	5x11	180		0.700	680	13x40	1180
6.3x11			245	0.490		18x20		1240	0.08
33		6.3x11	300	0.520		820	16x32	1570	0.054
47		6.3x11	295	0.300			18x25	1490	0.057
56		6.3x11	295	0.300		1000	16x36	1790	0.045
100		8x11	555	0.170	18x32		1630	0.047	
120		8x15	730	0.120	1200	16x40	2020	0.04	
150		10x12.5	760	0.120	100V (125)	15	6.3x11	115	1.2
180		8x20	910	0.091		27	8x12	232	0.63
220		10x16	1050	0.084		39	8x15	300	0.45
270		10x20	1220	0.060		47	10x12.5	288	0.43
		13x16	1260	0.061		56	8x20	362	0.33
330		*10x20	1400	0.058		68	10x16	357	0.31
		10x25	1440	0.055		82	10x20	466	0.21
470		10x30	1690	0.043			13x16	466	0.23
		13x20	1660	0.045		100	10x25	531	0.2
560		16x16	1690	0.055			120	10x30	663
		13x25	1950	0.034		13x20		690	0.16
680		18x16	1930	0.054		150	16x16	795	0.14
		13x30	2310	0.030			180	13x25	784
820		13x35	2510	0.025		18x16		920	0.12
		16x20	2210	0.034		220	13x30	905	0.1
1000		13x40	2920	0.021			16x20	1040	0.091
		16x25	2555	0.025		270	13x35	1050	0.083
18x20	2490	0.036	16x25	1250			0.073		
1200	16x32	3010	0.022	330		13x40	1180	0.071	
	50V (63)	22	5x11			180	0.700	18x20	1240
6.3x11			245	0.490		390	16x32	1570	0.054
33		6.3x11	300	0.520			18x25	1490	0.057
47		6.3x11	295	0.300		470	16x36	1790	0.045
56		6.3x11	295	0.300			18x32	1630	0.047
100		8x11	555	0.170	560	16x40	2020	0.04	
120		8x15	730	0.120		680	18x36	1790	0.04
150		10x12.5	760	0.120	820	18x40	2330	0.036	
180		8x20	910	0.091		100V (125)	15	6.3x11	115
220		10x16	1050	0.084	27		8x12	232	0.63
270		10x20	1220	0.060	39		8x15	300	0.45
		13x16	1260	0.061	47		10x12.5	288	0.43
330		*10x20	1400	0.058	56		8x20	362	0.33
		10x25	1440	0.055	68		10x16	357	0.31
470		10x30	1690	0.043	82		10x20	466	0.21
		13x20	1660	0.045			13x16	466	0.23
560		16x16	1690	0.055	100		10x25	531	0.2
		13x25	1950	0.034			120	10x30	663
680		18x16	1930	0.054	150			13x20	690
		13x30	2310	0.030			180	16x16	795
820		13x35	2510	0.025	220			13x25	784
		16x20	2210	0.034			18x16	920	0.12
1000		13x40	2920	0.021	270		13x30	905	0.1
		16x25	2555	0.025			16x20	1040	0.091
18x20	2490	0.036	330	13x35	1050		0.083		
50V (63)	22	5x11		180	0.700		16x25	1250	0.073
		6.3x11	245	0.490	390		13x40	1180	0.071
	33	6.3x11	300	0.520			18x20	1240	0.08
	47	6.3x11	295	0.300	470		16x32	1570	0.054
	56	6.3x11	295	0.300			18x25	1490	0.057
	100	8x11	555	0.170	560		16x36	1790	0.045
	120	8x15	730	0.120			18x32	1630	0.047
	150	10x12.5	760	0.120	680	16x40	2020	0.04	
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	270	10x20	1220	0.060		27	8x12	232	0.63
		13x16	1260	0.061		39	8x15	300	0.45
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		13x20	1660	0.045		82	10x20	466	0.21
	560	16x16	1690	0.055			13x16	466	0.23
		13x25	1950	0.034		100	10x25	531	0.2
	680	18x16	1930	0.054			120	10x30	663
		13x30	2310	0.030		13x20		690	0.16
	820	13x35	2510	0.025		150	16x16	795	0.14
		16x20	2210	0.034			180	13x25	784
	1000	13x40	2920	0.021		18x16		920	0.12
		16x25	2555	0.025		220	13x30	905	0.1
18x20	2490	0.036	16x20	1040			0.091		
50V (63)	22	5x11	180	0.700		270	13x35	1050	0.083
		6.3x11	245	0.490			16x25	1250	0.073
	33	6.3x11	300	0.520		330	13x40	1180	0.071
	47	6.3x11	295	0.300			18x20	1240	0.08
	56	6.3x11	295	0.300		390	16x32	1570	0.054
	100	8x11	555	0.170			18x25	1490	0.057
	120	8x15	730	0.120		470	16x36	1790	0.045
	150	10x12.5	760	0.120			18x32	1630	0.047
	180	8x20	910	0.091	560	16x40	2020	0.04	
	220	10x16	1050	0.084		680	18x36	1790	0.04
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		13x16	1260	0.061		27	8x12	232	0.63
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	680	18x16	1930	0.054		100	10x25	531	0.2
		13x30	2310	0.030			120	10x30	663
	820	13x35	2510	0.025		150		13x20	690
		16x20	2210	0.034			180	16x16	795
	1000	13x40	2920	0.021		220		13x25	784
		16x25	2555	0.025			18x16	920	0.12
18x20	2490	0.036	270	13x30		905	0.1		
50V (63)	22	5x11		180		0.700	330	16x20	1040
		6.3x11	245	0.490		390		13x35	1050
	33	6.3x11	300	0.520			16x25	1250	0.073
	47	6.3x11	295	0.300		470	13x40	1180	0.071
	56	6.3x11	295	0.300			18x20	1240	0.08
	100	8x11	555	0.170		560	16x32	1570	0.054
	120	8x15	730	0.120			18x25	1490	0.057
	150	10x12.5	760	0.120		680	16x36	1790	0.045
	180	8x20	910	0.091			18x32	1630	0.047
	220	10x16	1050	0.084	820	16x40	2020	0.04	
	270	10x20	1220	0.060		820	18x36	1790	0.04
		13x16	1260	0.061	100V (125)	15	6.3x11	115	1.2
	330	*10x20	1400	0.058		27	8x12	232	0.63
		10x25	1440	0.055		39	8x15	300	0.45
	470	10x30	1690	0.043		47	10x12.5	288	0.43
		13x20	1660	0.045		56	8x20	362	0.33
	560	16x16	1690	0.055		68	10x16	357	0.31
		13x25	1950	0.034		82	10x20	466	0.21
	680	18x16	1930	0.054			13x16	466	0.23
		13x30	2310	0.030		100	10x25	531	0.2
	820	13x35	2510	0.025			120	10x30	663
		16x20	2210	0.034		13x20		690	0.16
	1000	13x40	2920	0.021		150	16x16	795	0.14
		16x25	2555	0.025			180	13x25	784
18x20	2490	0.036	18x16	920		0.12			
50V (63)	22	5x11	180	0.700		220	13x30	905	0.1
		6.3x11	245	0.490			270	16x20	1040
	33	6.3x11	300	0.520		330		13x35	1050
	47	6.3x11	295	0.300			16x25	1250	0.073
	56	6.3x11	295	0.300		390	13x40	1180	0.071
	100	8x11	555	0.170			18x20	1240	0.08
	120	8x15	73						