SZL SERIES

特点 Features

- 低阻抗，7(9) mm高度，105℃ 2000小时。
  Low impedance, with 7(9)mm height, 105℃ 2000hours.
- 符合RoHS标准。
  RoHS compliant.

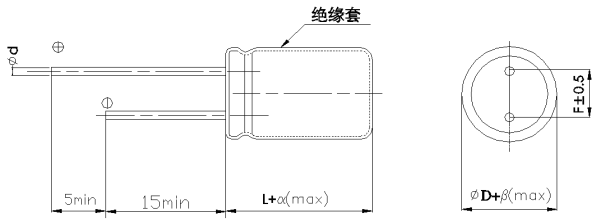
主要技术性能 Specifications

项目 Item	特性 Performance Characteristics
使用温度范围 Operating Temperature Range	-40~+105℃
额定电压范围 Rated Voltage Range	6.3~50 V
标称电容量范围 Nominal Capacitance Range	1~560μF
标称电容量允许偏差 Capacitance Tolerance	±20% (120Hz, +20°C)
漏电流 Leakage Current	I≤0.01CV or 3(μA) 2分钟(at 20℃, after 2 minutes) 取较大者 (whichever is greater)
损耗角正切值 (tgδ) Dissipation Factor (+20℃, 120Hz)	U_R (V): 6.3 / 10 / 16 / 25 / 35 / 50 tgδ: 0.18 / 0.16 / 0.14 / 0.12 / 0.10 / 0.10
温度特性Temperature Characteristics (Impedance ratio at 120Hz)	U_R (V): 6.3 / 10 / 16 / 25 / 35 / 50 Z-25℃ / Z+20℃: 2 / 2 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 10 / 8 / 8 / 6 / 5 / 3
耐久性 Load Life	+105℃加额定电压2000小时，恢复16小时后： After applying rated voltage for 2000 hours at +105℃ and then resumed 16 hours: 电容量变化率 Capacitance change： ±25%初始测量值以内 ±25% of the initial measured value 漏 电 流 Leakage current： ≤初始规定值 ≤the initial specif ied value 损耗角正切值 Dissipation factor： ≤2倍初始规定值数 ≤2times of the initial specified value
高温贮存 Shelf Life	+105℃,1000小时贮存后,恢复16小时后： After storage for 1000 hours at +105℃ and then resumed for 16 hours 电容量变化率 Capacitance change： ±25%初始测量值以内 ±25% of the initial measured value 漏 电 流 Leakage current： ≤2倍初始规定值 ≤2times of the initial specif ied value 损耗角正切值 Dissipation factor： ≤2倍初始规定值数 ≤2times of the initial specified value

频率修正系数 Frequency Coefficient

F(Hz) / CAP(uF)	120	1K	10K	100K
~180	0.4	0.75	0.90	1
220~560	0.5	0.85	0.94	1

外形图及尺寸表 Case Size Table



单位 Unit: mm

D	4	5	6.3	8
F	1.5	2.0	2.5	3.5
d	0.45		0.5	
α(max)	L＜9, α=1; L=9, α=1.5			
β(max)	0.5			

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尺寸 Dimensions

CAP(μF) \ WV		6.3V(0J)			10V(1A)			16V(1C)		
		Size	ESR	Ripple	Size	ESR	Ripple	Size	ESR	Ripple
15	150							4×7	3.3	70
22	220				4×7	3.3	70	5×7	1.7	120
33	330	5×7	1.7	120	5×7	1.7	120	6.3×7	0.8	220
47	470	5×7	1.7	120	5×7	0.8	165	6.3×7	0.8	220
68	680	6.3×7	0.8	210	6.3×7	0.8	210	6.3×7	0.5	220
100	101	6.3×7	0.8	220	6.3×7	0.5	220	6.3×7	0.5	235
		5×7	0.8	165	5×7	0.8	180	8×7	0.5	345
150	151	6.3×7	0.5	220	6.3×7	0.5	220	6.3×7	0.5	235
220	221	8×7	0.5	345	6.3×7	0.5	240	8×7	0.45	360
					8×7	0.5	345	6.3×7	0.45	260
330	331	8×7	0.4	360	8×7	0.4	360	8×9	0.38	380
470	471	8×7	0.4	380	8×7	0.35	380	8×9	0.38	380
560	561	8×9	0.35	380	8×9	0.30	380			

CAP(μF) \ WV		25V(1E)			35V(1V)			50V(1H)		
		Size	ESR	Ripple	Size	ESR	Ripple	Size	ESR	Ripple
1	010							4×7	3.0	65
								6.3×7	2.5	90
2.2	2R2							5×7	1.0	120
4.7	4R7							6.3×7	1.2	160
6.8	6R8				4×7	3.3	70			
10	100	4×7	3.3	70	4×7	1.8	70	5×7	1.0	120
		5×7	2.8	90	5×7	1.7	120			
15	150	5×7	1.7	120	5×7	1.7	120	5×7	1.0	120
22	220	5×7	1.7	120	6.3×7	0.8	200	6.3×7	0.75	200
33	330	5×7	1.7	140	6.3×7	0.5	220	6.3×7	0.70	220
47	470	6.3×7	0.5	220	6.3×7	0.48	220	8×7	0.68	345
68	680	6.3×7	0.5	220	8×7	0.45	310	8×7	0.65	345
100	101	6.3×7	0.5	240	8×7	0.40	345			
150	151	8×7	0.38	360						
220	221	8×9	0.40	380						

Size φD×L(mm)
Maximum Allowable Ripple Current (mA rms) at 105℃ 100KHz
Maximum ESR (Ω) at 20℃ 100KHz

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Product symbol system for Aluminum Electrolytic Capacitors

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
① Series			② Voltage		③ Capacitance			④ Tolerance	⑤ Size code				⑥ Terminal Code			⑦ Brand	⑧ Sleeve	⑨ Other	⑩ Supplement Code	

① Series

Series is represented by a two-letter code. For example "SGR".

② Voltage

Voltage in volts(V) is represented by a one-digit and one-letter code.
Example:

Voltage(V)	2.5	4	6.3	10	16	25	35	50	63	80	100
Code	0E	0G	0J	1A	1C	1E	1V	1H	1J	1K	2A

Voltage(V)	160	200	250	315	350	400	420	450	500	550
Code	2C	2D	2E	2F	2V	2G	2M	2W	2H	2L

③ Capacitance

Capacitance in μF is represented by a three-digit code.the first two digis are significant and the third digit indicates the number of zeros following the significant figure "R" represents the decimal point for capacitance under 10μF.
Example:

Capacitance(μF)	0.1	0.47	1	4.7	10	47	100	470	1000	4700	10000
Code	0R1	R47	010	4R7	100	470	101	471	102	472	103

④ Tolerance

Tolerance is represented by a one-letter code.
Example:

Tolerance(%)	-5~+5	-10~+10	-15~+15	-20~+20	-0~+20	-5~+20	-10~+20	-0~+30	+10~+30	-10~+30	-15~+20
Code	J	K	Y	M	R	H	V	F	G	Q	E

⑤ Size code

Size code is represented by a one-letter and three-digit code. The first one-letter indicate case diameter in mm .The last three digits indicate case length in mm, When the height of a product exceeds 100mm, if the last digit is 0,it is represented by A, otherwise, it is represented by B .
Example:

ΦD	4	5	6.3	8	10	12	12.5	13	16	18	20	22	25	30	35	40	50	63.5	89
Code	B	C	E	F	G	H	I	J	L	M	O	P	Q	R	S	T	U	W	Y

L	5	5.4	9	10	11	11.5	12	14	16	20	25	50	100	105	110	115	120	200	205
Code	050	054	090	100	110	115	120	140	160	200	250	500	10A	10B	11A	11B	12A	20A	20B

Note:When a case size is required and not shown in the table ,please contact with us for further discussion.

⑥ Terminal Code

Terminal Code is represented by a combination of letters or numbers
SMD Type terminal code (please refer to page11)
Radial type terminal code (please refer to page 12~15)
Snap-in Type and ScrewType terminal code(please refer to page 16~17)
Note:When a terminal code is required and not shown in the table ,please contact with us for further discussion.

⑦ Brand

The Surge trademark is represented by the letter "S".

⑧ Sleeve

The sleeve material is represented by the letter E for PET and V for PVC.

⑨ Other

It is represented by a letter or number for rubber shape or other information.

⑩ Supplement Code

For special control purposes.

For example: SGR 16V 2200μF 20% 12.5×25 taping F=5.0 Brand: Surge PVC Sleeve

S	G	R	1	C	2	2	2	M	I	2	5	0	B	5	0	S	V	0

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