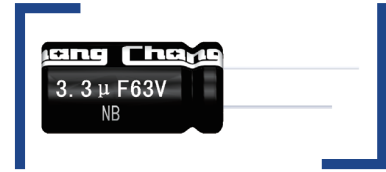


特点 Features

- 双极性，标准品，用于极性翻转或极性变换的电路中。
Bi-polarized Standard series, used in polarity reverse and change circuits.
- RoHS指令已对应完毕。
Adapted to the RoHS directive.



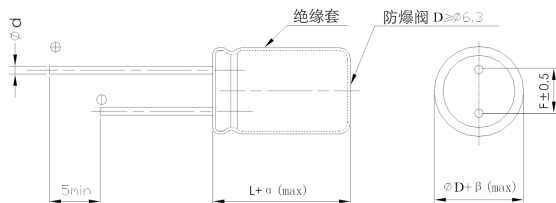
主要技术性能 Specifications

项目 Items	特性 Characteristics																															
使用温度范围 Operating Temperature Range	-40~+85°C	-25~+85°C																														
额定电压范围 Rated Voltage Range	6.3~100V	160V																														
标称电容容量范围 Nominal Capacitance Range	0.47~6800μF																															
标称电容容量允许偏差 Capacitance Tolerance	±20% (+20°C, 120Hz)																															
漏电流 Leakage Current	I ≤ 0.03CV + 3(μA) 2分钟 (at 20°C, after 2 minutes)																															
损耗角正切值 (tgδ) Dissipation Factor (+20°C, 120Hz)	<table border="1"> <thead> <tr> <th>UR (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> </tr> </thead> <tbody> <tr> <td>tgδ</td> <td>0.28</td> <td>0.24</td> <td>0.22</td> <td>0.20</td> <td>0.15</td> <td>0.14</td> <td>0.13</td> <td>0.13</td> <td>0.15</td> </tr> </tbody> </table>		UR (V)	6.3	10	16	25	35	50	63	100	160	tgδ	0.28	0.24	0.22	0.20	0.15	0.14	0.13	0.13	0.15										
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温度特性 Temperature Characteristics (Impedance ratio at 120Hz)	<table border="1"> <thead> <tr> <th>UR (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> </tr> </thead> <tbody> <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> <td>4</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>10</td> <td>8</td> <td>6</td> <td>5</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td></td> </tr> </tbody> </table>		UR (V)	6.3	10	16	25	35	50	63	100	160	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2	4	Z-40°C / Z+20°C	10	8	6	5	4	4	3	3	
UR (V)	6.3	10	16	25	35	50	63	100	160																							
Z-25°C / Z+20°C	4	3	2	2	2	2	2	2	4																							
Z-40°C / Z+20°C	10	8	6	5	4	4	3	3																								
耐久性 Load Life	+85°C加额定电压2000小时 (每250小时反转极性一次) 恢复16小时后: After applying rated voltage for 2000 hours at +85°C (with the polarity inverted every 250 hours) and then resumed 16 hours: 电容变化率 Capacitance change: ±20%初始测量值以内 ±20% of the initial measured value 漏电流 Leakage current: ≤初始规定值 Initial specified value 损耗角正切值 Dissipation factor: ≤2倍初始规定值 2times of the initial specified value																															
高温贮存 Shelf Life	+85°C, 1000小时贮存后, 恢复16小时后: After storage for 1000 hours at +85°C and then resumed 16 hours 电容变化率 Capacitance change: ±20%初始测量值以内 ±20% of the initial measured value 漏电流 Leakage current: ≤2倍初始规定值 2times of the initial specified value 损耗角正切值 Dissipation factor: ≤2倍初始规定值 2times of the initial specified value																															

频率修正系数 Frequency Coefficient

F(Hz)	60	120	1K	≥10k
0.47~68	0.8	1	1.45	1.7
100~470	0.8	1	1.35	1.5
680~6800	0.8	1	1.2	1.3

外形图及尺寸表 Case Size Table



单位 Unit: mm

D	5	6.3	8	10	12.5	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
d	0.5	0.5	0.5, 0.6	0.6	0.6	0.8	0.8

αMAX	α L < 20 > 1.5	βMAX	β D < 20 > 0.5
	α L ≥ 20 > 2.0		β D ≥ 20 > 1.0

尺寸 Dimensions

WV		6.3V(0J)		10V(1A)		16V(1C)		25V(1E)		35V(1V)	
		Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
4.7	4R7									5×11	34
10	100					5×11	47	5×11	42	5×11	43
22	220			5×11	57	5×11	57	6.3×11	65	6.3×11	73
								5×11	42		
33	330	5×11	64	5×11	64	5×11	68	6.3×11	80	8×11.5	100
47	470	5×11	76	5×11	76	6.3×11	95	6.3×11	95	8×11.5	120
								5×11	76		
100	101	6.3×11	125	6.3×11	125	8×11.5	160	8×11.5	160	10×16	230
220	221	8×11.5	215	8×11.5	215	10×12.5	275	10×16	305	12.5×20	410
330	331	8×11.5	265	10×16	345	10×16	375	12.5×20	450	12.5×20	505
470	471	10×12.5	370	10×16	410	10×20	485	12.5×20	540	12.5×25	655
1000	102	10×20	650	12.5×20	720	16×25	855	16×25	950	16×30	1140
2200	222	12.5×25	1160	16×25	1280	16×30	1510	18×35	1620	18×40	1650
3300	332	16×25	1570	16×30	1690	18×35	1980				
4700	472	16×30	2020	18×35	2160						
6800	682	18×35	2600								

WV		50V(1H)		63V(1J)		100V(2A)		160V(2C)	
		Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.47	R47	5×11	11			5×11	14		
1	010	5×11	17			5×11	21		
2.2	2R2	5×11	25			6.3×11	34		
						8×11.5	36		
3.3	3R3	5×11	27	5×11	28	6.3×11	39	10×16	49
						8×11.5	45		
4.7	4R7	5×11	34	6.3×11	34	6.3×11	47	10×16	59
						8×11.5	65		
6.8	6R8	5×11	38	6.3×11	42	6.3×11	48		
						8×11.5	75		
10	100	5×11	40	6.3×11	57	8×11.5	71	12.5×20	109
		6.3×11	52						
22	220	8×11.5	89	8×11.5	95	10×16	135	12.5×25	177
33	330	6.3×11	54	10×12.5	135	12.5×20	220	16×25	240
		8×11.5	105						
47	470	8×11.5	110	10×16	180	12.5×20	240	16×35	329
		10×12.5	150						
100	101	10×20	265	12.5×20	320	16×25	425	18×35	425
220	221	12.5×25	480	16×25	575	18×35	720		
330	331	16×25	650	16×30	655				
470	471	16×30	835	18×35	965				

Size $\phi D \times L$ (mm)
Maximum Allowable Ripple Current (mA rms) at 85°C 120Hz

Product symbol system for Aluminum Electrolytic Capacitors



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 $10\mu\text{F}$.
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 2200 μF 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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