SURGE
Components Inc.
1016 Grand Boulevard
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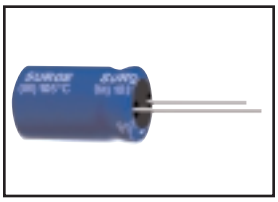
ALUMINUM ELECTROLYTIC CAPACITORS
NON POLARIZED TYPE, WIDE TEMPERATURE



FEATURES
☐ 105 ˚C, WIDE TEMPERATURE
☐ 2000 HOURS ASSURED
☐ DEVELOPED FOR USE WHERE LOW LEAKAGE CURRENT IS ESSENTIAL
☐ LEAKAGE CURRENT REMAINS VERY LOW EVEN AFTER PROLONGED STORAGE

SPECIFICATIONS

Items	Performance
Operating Temperature Range	-40˚C~+105˚C
Capacitance Tolerance	±20% (at 120Hz, 20˚C)
Leakage Current (at 20 ˚C)	I = 0.03CV or 4(μA) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF. V = rated DC working voltage in V.
Dissipation Factor (Tan δ at 120 Hz, 20 ˚C)	<table><tr><td>Rated Voltage</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><td>160</td><td>200</td><td>250</td></tr><tr><td>Tan δ (max)</td><td>0.25</td><td>0.22</td><td>0.18</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.15</td><td>0.15</td><td>0.20</td></tr></table> When the capacitance exceeds 1000μF, 0.02 shall be added every 1000 μF increase.
Low Temperature Characteristics (at 120 Hz)	Impedance ratio shall not exceed the values given in the table below. <table><tr><td colspan="2">Rated Voltage</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><td>160</td><td>200</td><td>250</td></tr><tr><td rowspan="2">Impedance Ratio</td><td>Z(-25˚C)/Z(+20˚C)</td><td>4</td><td>3</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>3</td></tr><tr><td>Z(-40˚C)/Z(+20˚C)</td><td>8</td><td>6</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td><td>4</td><td>4</td><td>6</td></tr></table>
Load Life Test (after application of the rated voltage at 105 ˚C, the polarity inverted every 250hrs.)	<table><tr><td>Test Time</td><td>2000 Hrs</td></tr><tr><td>Capacitance Change</td><td>≤ ± 20%</td></tr><tr><td>Dissipation Factor</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> *The above specifications shall be satisfied when the capacitors are restored to 20 ˚C after the rated voltage applied for 2000 hrs at 105˚C.
Shelf Life Test	<table><tr><td>Test Time</td><td>500 Hrs</td></tr><tr><td>Capacitance Change</td><td>≤ ± 20%</td></tr><tr><td>Dissipation Factor</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> *The above specifications shall be satisfied when the capacitors are restored to 20 ˚C after exposing them for 500 hrs at 105 ˚C without voltage applied.
Standards	Satisfies Characteristic W of JIS C 5141

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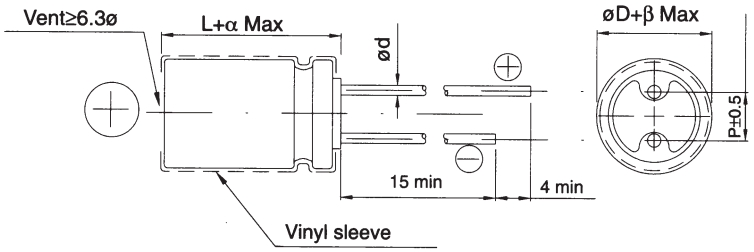
NEW
SRNG Series

DIAGRAM OF DIMENSIONS



Unit: mm

LEAD SPACING AND DIAMETER

ø	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
ø d	0.5			0.6		0.8	
α	1.0			1.5			
β	0.5						

DIMENSION & PERMISSIBLE RIPPLE CURRENT

Dimension: ø D x L(mm)
Ripple Current: mA/rms at 120 Hz, 105 ˚C

V.DC		6.3V (0J)		10V (1A)		16V (1C)		25V (1G)		35V (1V)		50V (1H)		63V (1J)		100V (2A)	
µF	code	ø D x L	mA	ø D x L	mA	ø D x L	mA	ø D x L	mA	ø D x L	mA	ø D x L	mA	ø D x L	mA	ø D x L	mA
0.1	0R1											5 x 11	4	5 x 11	5	5 x 11	5
0.22	R22											5 x 11	5	5 x 11	6	5 x 11	6
0.33	R33											5 x 11	6	5 x 11	6	5 x 11	7
0.47	R47											5 x 11	7	5 x 11	8	5 x 11	8
1	010											5 x 11	10	5 x 11	11	5 x 11	12
2.2	2R2											5 x 11	15	5 x 11	16	6.3 x 11	20
3.3	3R3											5 x 11	18	5 x 11	20	6.3 x 11	25
4.7	4R7									5 x 11	21	5 x 11	22	6.3 x 11	24	6.3 x 11	30
10	100					5 x 11	27	5 x 11	27	5 x 11	30	6.3 x 11	37	6.3 x 11	40	8 x 11.5	50
22	220	5 x 11	34	5 x 11	34	5 x 11	40	6.3 x 11	46	6.3 x 11	51	8 x 11.5	63	8 x 11.5	68	10 x 16	97
33	330	5 x 11	45	5 x 11	45	5 x 11	49	6.3 x 11	56	8 x 11.5	72	8 x 11.5	77	10 x 12.5	98	10 x 20	140
47	470	5 x 11	54	5 x 11	54	6.3 x 11	67	6.3 x 11	67	8 x 11.5	86	10 x 12.5	105	10 x 16	130	13 x 20	170
100	101	6.3 x 11	90	6.3 x 11	90	8 x 11.5	110	8 x 11.5	110	10 x 16	160	10 x 20	190	13 x 20	225	16 x 25	300
220	221	8 x 11.5	150	8 x 11.5	150	10 x 12.5	195	10 x 16	215	13 x 20	290	13 x 25	340	16 x 25	405	16 x 35.5	510
330	331	8 x 11.5	185	10 x 16	240	10 x 16	265	13 x 20	320	13 x 20	350	16 x 25	460	16 x 31.5	535		
470	471	10 x 12.5	260	10 x 16	290	10 x 20	345	13 x 25	380	13 x 25	465	16 x 31.5	590	18 x 35.5	680		
1000	102	10 x 20	460	13 x 20	510	13 x 25	605	16 x 25	670	16 x 31.5	805						
2200	222	13 x 25	820	16 x 25	940	16 x 31.5	1070	18 x 35.5	1140								

V.DC		160V (2C)		200V (2D)		250V (2E)	
µF	code	ø D x L	mA	ø D x L	mA	ø D x L	mA
0.47	R47	5 x 11	8	6.3 x 11	9	6.3 x 11	10
1	010	6.3 x 11	11	8 x 11.5	12	8 x 11.5	13
2.2	2R2	8 x 11.5	18	8 x 11.5	22	10 x 12.5	26
3.3	3R3	8 x 11.5	26	10 x 12.5	30	10 x 16	37
4.7	4R7	10 x 12.5	31	10 x 16	37	10 x 20	50
10	100	10 x 16	60	10 x 20	66	10 x 20	79
22	220	13 x 20	117	13 x 20	117	13 x 25	138
33	330	13 x 20	143	13 x 25	158	16 x 25	169
47	470	16 x 25	188				