

Features

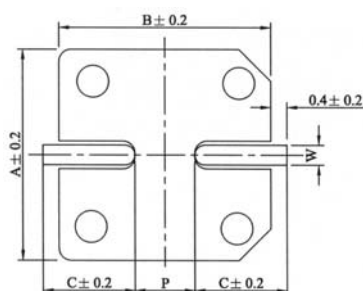
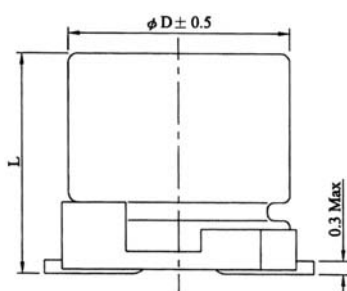
- 3 ~ 10 ϕ , 85°C, 2,000 hours assured
- Chip type large capacitance capacitors
- Designed for surface mounting on high density PC board.
- RoHS Compliance



SPECIFICATIONS

Items	Performance																																
Operating Temperature Range	-40°C ~ +85°C																																
Capacitance Tolerance	±20% (at 120Hz, 20°C)																																
Leakage Current (at 20°C)	$I = 0.01CV$ or $3 (\mu A)$ whichever is greater (after 2 minutes) Where, C= rated capacitance in μF . V = rated DC working voltage in V.																																
Dissipation Factor (Tan δ at 120Hz, 20°C)	<table border="1"> <thead> <tr> <th>Rated Voltage</th> <th>4</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> </tr> </thead> <tbody> <tr> <td>Tan δ (max)</td> <td>0.42</td> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> <td>0.10</td> </tr> </tbody> </table>	Rated Voltage	4	6.3	10	16	25	35	50	63	100	Tan δ (max)	0.42	0.28	0.24	0.20	0.14	0.12	0.10	0.10	0.10												
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Low Temperature Characteristics (at 120Hz)	<p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <thead> <tr> <th colspan="2">Rated Voltage</th> <th>4</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> </tr> </thead> <tbody> <tr> <td rowspan="2">Impedance Ratio</td> <td>Z(-25°C)/Z(+20°C)</td> <td>7</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>15</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	Rated Voltage		4	6.3	10	16	25	35	50	63	100	Impedance Ratio	Z(-25°C)/Z(+20°C)	7	4	3	2	2	2	2	2	2	Z(-40°C)/Z(+20°C)	15	8	5	4	3	3	3	3	3
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Impedance Ratio	Z(-25°C)/Z(+20°C)	7	4	3	2	2	2	2	2	2																							
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Load Life Test	<table border="1"> <thead> <tr> <th>Test Time</th> <th>2,000 Hrs</th> </tr> </thead> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±20% of initial value (4WV:±30%)</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 200% of specified value (4WV:±300%)</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2,000 hrs at 85°C.</p>	Test Time	2,000 Hrs	Capacitance Change	Within ±20% of initial value (4WV:±30%)	Dissipation Factor	Less than 200% of specified value (4WV:±300%)	Leakage Current	Within specified value																								
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Shelf Life Test	Test time: 1,000 hrs; other items are the same as those for the load life test.																																
Ripple Current & Frequency Multipliers	<table border="1"> <thead> <tr> <th rowspan="2">V.DC(V)</th> <th colspan="4">Freq.(Hz)</th> </tr> <tr> <th>50</th> <th>120</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <tr> <td>Under 16</td> <td>0.8</td> <td>1.0</td> <td>1.15</td> <td>1.25</td> </tr> <tr> <td>25 ~ 35</td> <td>0.8</td> <td>1.0</td> <td>1.25</td> <td>1.40</td> </tr> <tr> <td>50 ~ 63</td> <td>0.8</td> <td>1.0</td> <td>1.35</td> <td>1.50</td> </tr> <tr> <td>100</td> <td>0.7</td> <td>1.0</td> <td>1.35</td> <td>1.50</td> </tr> </tbody> </table>	V.DC(V)	Freq.(Hz)				50	120	1K	10K up	Under 16	0.8	1.0	1.15	1.25	25 ~ 35	0.8	1.0	1.25	1.40	50 ~ 63	0.8	1.0	1.35	1.50	100	0.7	1.0	1.35	1.50			
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50 ~ 63	0.8	1.0	1.35	1.50																													
100	0.7	1.0	1.35	1.50																													
Other Standards	JIS C 5101-1, -18																																

DIAGRAM OF DIMENSIONS



LEAD SPACING AND DIAMETER

Unit: mm

ϕD	L	A	B	C	W	P±0.2
3	5.3±0.2	3.3	3.3	1.5	0.45 ~ 0.75	0.8
4	5.3±0.2	4.3	4.3	2.0	0.5 to 0.8	1.0
5	5.3±0.2	5.3	5.3	2.3	0.5 to 0.8	1.5
6.3	5.3±0.2	6.6	6.6	2.7	0.5 to 0.8	2.0
6.3	7.7±0.3	6.6	6.6	2.7	0.5 to 0.8	2.0
8	6.5±0.3	8.4	8.4	3.4	0.5 to 0.8	2.3
8	10±0.5	8.4	8.4	3.0	0.7 to 1.1	3.1
10	10±0.5	10.4	10.4	3.3	0.7 to 1.1	4.7
10	10.3±0.5	10.4	10.4	3.3	0.7 to 1.1	4.7

μF	V.DC	Contents	4V(0G)		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)	
			φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA
4.7		47									4×5.3	19
10		100					4×5.3	23	4(3)×5.3	26(14)	5×5.3	32
22		220	3×5.3	14	4×5.3	23	4×5.3	28	4×5.3	30	6.3×5.3	55
							5×5.3	39	5×5.3	44		
33		330	4×5.3	31	4×5.3	31	4×5.3	33	6.3×5.3	63	5×5.3	54
							5×5.3	48			6.3×5.3	67
47		470	4×5.3	34	4×5.3	37	5×5.3	39	5×5.3	52	6.3×5.3	75
					5×5.3	50	6.3×5.3	67	6.3×5.3	75	*8×6.5	155(98)
68		680	5×5.3	54	6.3×5.3	89	5×5.3	63	6.3×5.3	98	6.3×5.3	103
							6.3×5.3	98			*8×6.5	155(109)
100		101	5×5.3	58	5×5.3	63	5×5.3	65	6.3×5.3	110	6.3×7.7	124
			6.3×5.3	89	6.3×5.3	98	6.3×5.3	110	*8×6.5	155(108)	*8×6.5	155(124)
220		221	6.3×5.3	110	6.3×5.3	110	6.3×7.7	124	*8×10	252(124)	8×10	252
					*8×6.5	155(123)	*8×6.5	155(130)				
330		331			*8×6.5	155(139)	8×10	252	8×10	252	10×10	458
470		471			8×10	252	10×10	458	10×10	458		
1,000		102			10×10	458	10×10	458				
1,500		152			10×10.3	458						

μF	V.DC	Contents	35V (1V)		50V (1H)		63V (1J)		100V (2A)	
			φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA
0.1		0R1			4×5.3	3				
0.22		R22			4×5.3	5				
0.33		R33			4×5.3	6				
0.47		R47			4×5.3	7				
1		010			3×5.3	4×5.3	14	10		
2.2		2R2			4×5.3	15				
3.3		3R3	3×5.3	8	4×5.3	19				
4.7		4R7	4×5.3	20	4×5.3	20				
					5×5.3	26				
10		100	4×5.3	27	5×5.3	34	8×6.5	75	8×10	94
			5×5.3	34	6.3×5.3	44				
22		220	5×5.3	47	6.3×5.3	59	8×10	139	10×10	189
			6.3×5.3	59	*8×6.5	155(65)				
33		330	6.3×5.3	67	6.3×7.7	82	8×10	139	10×10	189
			*8×6.5	155(85)	*8×6.5	155(82)				
47		470	*8×6.5	155(98)	6.3×7.7	98	10×10	226		
					*8×10	252(98)				
68		680	6.3×7.7	109	8×10	252	10×10	226		
			*8×6.5	155(109)						
100		101	*8×10	252	8×10	252	10×10	226		
					10×10	458				
220		221	10×10	458	10×10.3	458				

*6.3×7.7 is available and () is its ripple current.