



Features

- 105°C, 2,000 hours assured
- Ultra low ESR, solid capacitors of SMD type
- RoHS Compliance



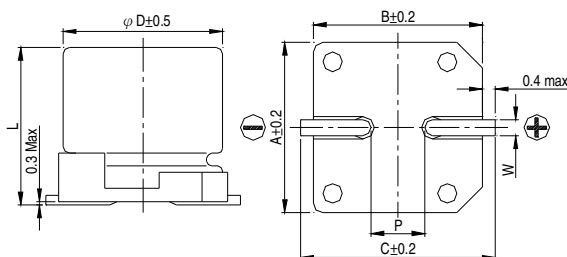
Marking color: Blue

SPECIFICATIONS

Items	Performance										
Category Temperature Range	-55°C ~ +105°C										
Capacitance Tolerance	±20% (at 120Hz, 20°C)										
Leakage Current (at 20°C)*	Rated voltage applied, after 2 minutes at 20°C. See Standard Ratings										
Dissipation Factor (Tan δ at 120Hz, 20°C)	See Standard Ratings										
ESR (at 100k ~ 300k Hz, 20°C)	See Standard Ratings										
Endurance	<table border="1"> <tr> <td>Test Time</td> <td>2,000 Hrs</td> </tr> <tr> <td>Capacitance Change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 150% of specified value</td> </tr> <tr> <td>ESR</td> <td>Less than 150% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </table>	Test Time	2,000 Hrs	Capacitance Change	Within ±20% of initial value	Dissipation Factor	Less than 150% of specified value	ESR	Less than 150% of specified value	Leakage Current	Within specified value
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Leakage Current	Within specified value										
* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2,000 hours at 105°C.											
Moisture Resistance	<table border="1"> <tr> <td>Test Time</td> <td>1,000 Hrs</td> </tr> <tr> <td>Capacitance Change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 150% of specified value</td> </tr> <tr> <td>ESR</td> <td>Less than 150% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </table>	Test Time	1,000 Hrs	Capacitance Change	Within ±20% of initial value	Dissipation Factor	Less than 150% of specified value	ESR	Less than 150% of specified value	Leakage Current	Within specified value
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Leakage Current	Within specified value										
* The above specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them at 60°C, 90 to 95% RH for 1,000 hours. Leakage current should be tested after voltage treatment*.											
Resistance to Soldering Heat * (Please refer to page 23 for reflow soldering conditions)	<table border="1"> <tr> <td>Capacitance Change</td> <td>Within ±10% of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 130% of specified value</td> </tr> <tr> <td>ESR</td> <td>Less than 130% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </table>	Capacitance Change	Within ±10% of initial value	Dissipation Factor	Less than 130% of specified value	ESR	Less than 130% of specified value	Leakage Current	Within specified value		
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* For any doubt about measured values, measure the leakage current again after the following voltage treatment.											
Ripple Current & Frequency Multipliers	<table border="1"> <tr> <td>Frequency (Hz)</td> <td>120 ≤ f < 1k</td> <td>1k ≤ f < 10k</td> <td>10k ≤ f < 100k</td> <td>100k ≤ f < 500k</td> </tr> <tr> <td>Multiplier</td> <td>0.05</td> <td>0.3</td> <td>0.7</td> <td>1.0</td> </tr> </table>	Frequency (Hz)	120 ≤ f < 1k	1k ≤ f < 10k	10k ≤ f < 100k	100k ≤ f < 500k	Multiplier	0.05	0.3	0.7	1.0
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Multiplier	0.05	0.3	0.7	1.0							

* For any doubt about measured values, measure the leakage current again after the following voltage treatment.
Voltage treatment: Applying DC rated voltage to the capacitors for 2 hours at 105°C.

DIAGRAM OF DIMENSIONS



LEAD SPACING AND DIAMETER

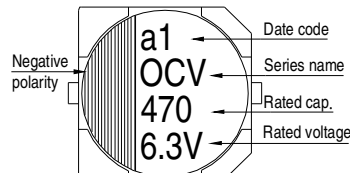
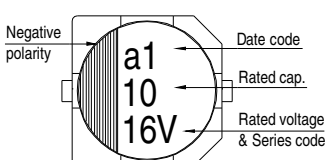
Unit: mm

φ D	L	A	B	C	W	P ± 0.2
6.3	5.9 +0.1/-0.3	6.6	6.6	7.4	0.5 ~ 0.8	2.0
6.3	7.0 ± 0.2	6.6	6.6	7.4	0.5 ~ 0.8	2.0
8	6.7 ± 0.3	8.4	8.4	9.2	0.7 ~ 1.1	3.1
8	12.0 ± 0.5	8.4	8.4	9.2	0.7 ~ 1.1	3.1
10	7.7 ± 0.3	10.4	10.4	11.2	0.7 ~ 1.1	4.7
10	9.9 +0.1/-0.3	10.4	10.4	11.2	0.7 ~ 1.1	4.7
10	12.7 ± 0.5	10.4	10.4	11.2	0.7 ~ 1.1	4.7

MARKING

φ D = 6.3

φ D = 8 ~ 10





Dimension: $\phi D \times L$ (mm)

Ripple Current: mA/rms at 100k Hz, 105°C

STANDARD RATINGS

W. V. (V)	Capacitance (μ F)	Size $\phi D \times L$ (mm)	Tan δ (120Hz, 20°C)	L C (μ A)	E S R (m Ω /at 100k ~ 300k Hz, 20°C Max)	Rated R. C. (mA/rms at 100k Hz, 105°C)
2.5V (0E)	220	6.3x5.9	0.12	110	25	2,500
	560	8x6.7	0.12	280	23	3,100
	680	8x12	0.18	340	12	4,770
	1,000	10x7.7	0.12	500	19	4,240
	1,200	10x9.9	0.18	750	13	5,200
	1,500	10x12.7	0.18	750	10	5,500
4V (0G)	150	6.3x5.9	0.12	120	26	2,450
	220	8x6.7	0.12	176	25	3,020
	330	8x6.7	0.12	264	25	3,020
	470	10x7.7	0.12	376	20	4,130
	560	8x12	0.18	448	12	4,770
	680	10x7.7	0.12	544	20	4,130
	820	10x9.9	0.18	656	13	5,200
	1200	10x12.7	0.18	960	10	5,500
6.3V (0J)	82	6.3x5.9	0.12	103	27	2,400
	100	6.3x5.9	0.12	126	27	2,400
	120	6.3x7	0.12	151	30	2,010
	150	6.3x7	0.12	189	30	2,250
		8x6.7	0.12	189	25	3,020
	220	6.3x7	0.12	277	30	2,250
		8x6.7	0.12	277	25	3,020
	330	10x7.7	0.12	416	20	4,130
	470	8x12	0.15	592	12	4,770
	560	10x9.9	0.15	706	16	4,700
820	10x12.7	0.15	1,033	10	5,500	
10V (1A)	56	6.3x5.9	0.10	112	31	2,250
	150	8x6.7	0.10	300	27	2,800
	330	8x12	0.15	660	14	4,420
		10x7.7	0.10	660	24	3,770
	470	10x9.9	0.15	940	18	4,400
	560	10x12.7	0.15	1,120	12	5,300
16V (1C)	47	6.3x5.9	0.10	150	50	1,650
	82	8x6.7	0.10	262	30	2,700
	180	8x12	0.15	576	16	4,360
		10x7.7	0.10	576	26	3,430
	220	10x9.9	0.15	704	20	4,200
	330	10x12.7	0.15	792	14	5,050
20V (1D)	22	6.3x5.9	0.10	88	50	1,650
	47	8x6.7	0.10	188	45	2,000
	82	10x7.7	0.10	328	40	2,500
	100	8x12	0.15	400	24	3,320
		10x9.9	0.15	400	25	3,700
	150	10x12.7	0.15	600	20	4,320
25V (1E)	6.8	6.3x5.9	0.10	170	80	1,200
	33	8x12	0.12	413	30	2,980
	56	10x12.7	0.12	700	28	3,800
35V (1V)	39	8x12	0.12	273	31	2,100
	68	10x12.7	0.12	476	28	2,700