

ALUMINUM ELECTROLYTIC CAPACITOR

Suntan®

GENERAL SUPER MINIATURIZED

TS13D CD110X

FEATURES

- CD 110 Miniaturized Series Miniatured
- 85°C 2000 hours Guaranteed

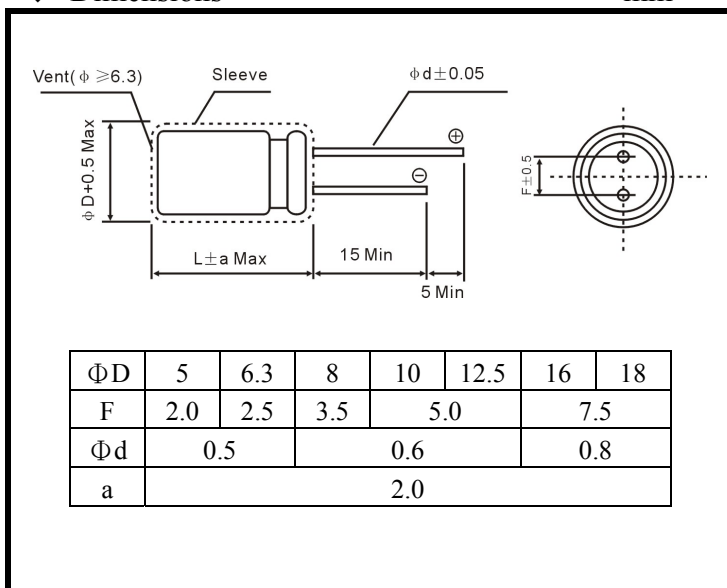


◆ Specifications

ITEMS	PERFORMANCE CHARACTERISTICS																																																
Operating Temperature Range(°C)	-40~+85																																																
Capacitance Tolerance (25°C, 120Hz)	±20%																																																
Leakage Current(μA)	<table border="1"> <tr> <th rowspan="2">Rated Voltage(V)</th> <th colspan="7">6.3~100</th> <th colspan="7">160~450</th> </tr> <tr> <td colspan="7">0.03cv or 4 whichever is greater(at 25°C, after 1 minutes) 0.01cv or 3 whichever is greater(at 25°C, after 2 minutes)</td> <td colspan="7">CV≤1000:0.1 CV+40(at 25°C, after 1 minutes) CV>1000:0.04 CV+100(at 25°C, after 1 minutes)</td> </tr> </table>	Rated Voltage(V)	6.3~100							160~450							0.03cv or 4 whichever is greater(at 25°C, after 1 minutes) 0.01cv or 3 whichever is greater(at 25°C, after 2 minutes)							CV≤1000:0.1 CV+40(at 25°C, after 1 minutes) CV>1000:0.04 CV+100(at 25°C, after 1 minutes)																									
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Dissipation Factor (25°C, 120Hz)	<table border="1"> <tr> <th>Rated Voltage</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> <th>200</th> <th>250</th> <th>315</th> <th>350</th> <th>400</th> <th>450</th> </tr> <tr> <th>Tan δ</th> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> </tr> </table>	Rated Voltage	6.3	10	16	25	35	50	63	100	160	200	250	315	350	400	450	Tan δ	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.20	0.20	0.24	0.24	0.24	0.24																
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0.02 is added to every 1000 μF increase over																																																	
Temperature Stability (120Hz)	<table border="1"> <tr> <th>Rated Voltage(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> <th>200</th> <th>250</th> <th>315</th> <th>350</th> <th>400</th> <th>450</th> </tr> <tr> <th>Impedance</th> <td colspan="2">Z-25°C/Z+20°C</td> <td>5</td> <td>4</td> <td>3</td> <td colspan="3">2</td> <td colspan="7">4</td> </tr> <tr> <td></td> <td colspan="2">Z-40°C/Z+20°C</td> <td>12</td> <td>10</td> <td>8</td> <td>5</td> <td>4</td> <td colspan="2">3</td> <td colspan="3">15</td> <td colspan="3">10</td> </tr> </table>	Rated Voltage(V)	6.3	10	16	25	35	50	63	100	160	200	250	315	350	400	450	Impedance	Z-25°C/Z+20°C		5	4	3	2			4								Z-40°C/Z+20°C		12	10	8	5	4	3		15			10		
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	Z-40°C/Z+20°C		12	10	8	5	4	3		15			10																																				
Load Life (+85°C)	Time	2000 hours																																															
	Leakage current	Not more than the specified value.																																															
	Capacitance Change	Within±20% of initial value																																															
	Dissipation factor	Not more than 200% of the specified value.																																															
Shelf Life (+85°C)	1000hours. No voltage applied. After test: U _R to be applied for 30 minutes, 24 to 48 hours before measurement.																																																

◆ Dimensions

mm



◆ Multiplier for ripple current

Frequency coefficient

Rated Voltage(V)	Freq(Hz) CV(μF·WV)	Multiplier				
		50,60	120	1K	10K	100K
6.3~16	----	0.80	1	1.1	1.2	1.2
	≤1000	0.80	1	1.5	1.7	1.7
25~35	≤1000	0.80	1	1.2	1.3	1.3
	>1000	0.80	1	1.6	1.9	1.9
50~100	≤1000	0.80	1	1.2	1.3	1.3
160~450	----	0.80	1	1.3	1.5	1.6

Temperature coefficient

Temperature (°C)	+70	+85
Factor	1.35	1

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	6.3		10		16		25		35		50	
	Size(mm)	Ripple	Size(mm)	Ripple	Size(mm)	Ripple	Size(mm)	Ripple	Size(mm)	Ripple	Size(mm)	Ripple
	□DxL	mArms	□DxL	mArms	□DxL	mArms	□DxL	mArms	□DxL	mArms	□DxL	mArms
0.1	--	--	--	--	--	--	--	--	--	--	5x11	3
0.22	--	--	--	--	--	--	--	--	--	--	5x11	6
0.33	--	--	--	--	--	--	--	--	--	--	5x11	9
0.47	--	--	--	--	--	--	--	--	--	--	5x11	13
1	--	--	--	--	--	--	--	--	--	--	5x11	21
2.2	--	--	--	--	--	--	--	--	--	--	5x11	31
3.3	--	--	--	--	--	--	--	--	--	--	5x11	38
4.7	--	--	--	--	--	--	5x11	38	5x11	40	5x11	45
10	--	--	--	--	5x11	50	5x11	55	5x11	59	5x11	66
22	--	--	--	--	5x11	75	5x11	82	5x11	87	5x11	98
33	--	--	--	--	5x11	92	5x11	100	5x11	107	5x11	126
47	--	--	5x11	99	5x11	110	5x11	118	6x11	130	6.3x11	155
100	--	--	5x11	146	5x11	160	6.3x11	199	6.3x11	214	8x11.5	260
220	5x11	200	6.3x11	240	6.3x11	264	8x11.5	349	8x12	443	10x12.5	443
330	6.3x11	270	6.3x11	290	8x11.5	383	8x12	510	8x16	542	10x16	595
470	6.3x11	322	6x12	417	8x11.5	457	8x14	545	10x16	664	10x20	887
1000	8x11.5	546	8x14	650	10x16	791	10x17	996	12.5x20	1210	12.5x25	1400
2200	10x20	1010	10x20	1080	10x20	1350	12.5x25	1660	16x25	1950	16x35.5	2340
3300	10x20	1230	12.5x20	1430	12.5x25	1690	16x25	2030	16x35.5	2510	18x35.5	--
4700	12.5x20	1710	12.5x25	1780	16x25	2100	16x31.5	2650	18x35.5	1990	--	--
6800	12.5x25	1930	16x25	2220	16x35.5	2580	18x35.5	3290	--	--	--	--
10000	16x25	2450	16x35.5	2700	18x35.5	3130	--	--	--	--	--	--
15000	16x35.5	2860	18x35.5	3100	--	--	--	--	--	--	--	--
22000	18x40	3340	--	--	--	--	--	--	--	--	--	--

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WV (V) / Cap (μF)	63		100	
	Size(mm)	Ripple	Size(mm)	Ripple
	□DxL mArms	mArms	□DxL mArms	mArms
0.1	--	--	5x11	2.1
0.22	--	--	5x11	4.7
0.33	--	--	5x11	7
0.47	--	--	5x11	10
1	--	--	5x11	21
2.2	--	--	5x11	30
3.3	--	--	5x11	40
4.7	5x11	45	5x11	45
10	5x11	66	6.3x11	75
22	5x11	100	6.3x11	130
33	6.3x11	140	8x11.5	180
47	8x12	170	10x12.5	230
100	8x14	300	10x20	370
220	10x16	470	12.5x25	620
330	10x20	710	12.5x25	760
470	12.5x20	900	16x25	1000
1000	16x25	1300	18x40	1380
2200	--	--	--	--
3300	--	--	--	--
4700	--	--	--	--
6800	--	--	--	--
10000	--	--	--	--
15000	--	--	--	--
22000	--	--	--	--

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WV (V) / Cap (μF)	160		200		250		315		350	
	Size(mm)	Ripple	Size(mm)	Ripple	Size(mm)	Ripple	Size(mm)	Ripple	Size(mm)	Ripple
	□DxL	mArms	□DxL	mArms	□DxL	mArms	□DxL	mArms	□DxL	mArms
1	6.3x11	22	6.3x11	22	6.3x11	22	6.3x11	22	6.3x11	22
2.2	6.3x11	32	6.3x11	32	6.3x11	32	8x11.5	38	8x11.5	38
3.3	6.3x11	40	6.3x11	40	8x11.5	48	10x12.5	53	10x12.5	53
4.7	6.3x11	48	8x11.5	56	8x11.5	56	10x12.5	65	10x12.5	65
10	8x11.5	81	10x12.5	94	10x16	101	10x20	115	10x20	115
22	10x16	151	10x20	170	12.5x20	182	12.5x20	182	12.5x25	197
33	10x20	202	12.5x20	223	12.5x25	243	16x25	227	16x25	277
47	12.5x20	266	12.5x20	265	12.5x25	295	16x25	330	16x25	330
100	12.5x25	422	16x25	483	16x31.5	528	18x31.5	567	18x31.5	507
220	16x31.5	783	18x35.5	882	--	--	--	--	--	--
330	18x31.5	1080	--	--	--	--	--	--	--	--

WV (V) / Cap (μF)	400		450	
	Size(mm)	Ripple	Size(mm)	Ripple
	□DxL	mArms	□DxL	mArms
1	6.3x11	22	8x11.5	25
2.2	8x11.5	38	10x12.5	43
3.3	10x12.5	54	10x16	59
4.7	10x16	71	10x20	76
10	12.5x20	123	12.5x20	123
22	12.5x25	197	16x25	226
33	16x25	277	16x31.5	304
47	16x31.5	361	16x35.5	380
100	--	--	--	--
220	--	--	--	--
330	--	--	--	--

Note: Specification are subject to change without notice. For more detail and update, please visit our website.