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Datasheet

Aluminium Electrolytic Capacitor

RS Stock number 711-1306

Specifications:

Item	Performance Characteristics	
Operating Temperature Range	-40 to +105°C	-25 to +105°C
Rated Voltage Range	6.3 to 100 VDC	160 to 450 VDC
Capacitance Tolerance	± 20% (120Hz, +20°C)	
Leakage Current (at 20°C, max.)	I < 0.01 CV or 3 (μA). After 1 minute whichever is greater measured with rated working voltage applied.	I < 0.03 CV or 3 (μA). After 1 minute with rated working voltage applied.
Dissipation Factor (120Hz, 20°C)		

Working voltage (VDC)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
D.F (%) Max.	23	20	16	14	12	10	10	10	15	15	16	20	20	20

For capacitance > 1000μ F, add 2% per another 1000μ (+20°C at 120Hz)

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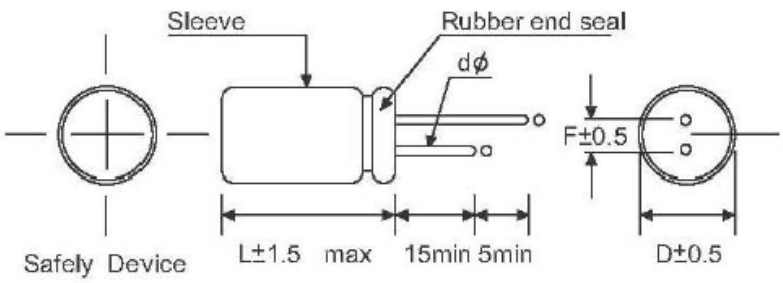
Specifications:

<table>
<tr><th>Item</th><th>Performance Characteristics</th></tr>
<tr><td>Low Temperature Characteristics (at 120Hz)</td><td>Impedance ratio max.
<table>
<tr><td>W.V (VDC)</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><td>350</td><td>400</td><td>450</td></tr>
<tr><td>Z-25°C/+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>3</td><td>3</td><td>3</td><td>5</td><td>6</td><td>15</td></tr>
<tr><td>Z-40°C/+20°C</td><td>9</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
For capacitance value 1000µF, add 0.5 per another 1000µF for -25°C/+20°C
For capacitance value 1000µF, add 1 per another 1000µF for -40°C/+20°C</td></tr>
<tr><td>Load Life</td><td>Test Conditions:
Duration time: 2000hrs
Ambient temperature: +105°C
Applied voltage: Rated DC working voltage
After test requirements: +20°C
After test requirements: ≤ ± 20% of initial measured value
Dissipation Factor: ≤ 200% of the initial specified value
Leakage Current: ≤ the initial specified value</td></tr>
<tr><td>Shelf Life</td><td>Test Conditions:
Duration time: 1000hrs
Ambient temperature: +105°C
Applied Voltage: None
After test requirements at +20°C: Same limits as load life.
Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.</td></tr>
</table>

Diagram of Dimensions:



(Unit: mm)

D	5	6	8	10	13	16	18	22	25
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10	12
φd	0.5			0.6		0.8			1.0

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Features:

- Used in communication equipment's, switching power supply, etc.
- Safety vent construction design

Ripple Current & Temperature

Temperature (°C)	45	60	70	85	105
Multiplier	2.10	1.90	1.65	1.40	1.00

Ripple Current & Frequency Multipliers

CAP (µF)/Hz	50 (60)	120	400	1K	10K	50 – 100K
CAP≤ 10	0.8	1.0	1.30	1.45	1.65	1.70
10< CAP≤ 100	0.8	1.0	1.23	1.36	1.48	1.53
100< CAP≤ 1000	0.8	1.0	1.16	1.25	1.35	1.38
1000<CAP	0.8	1.0	1.11	1.18	1.25	1.28

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Case Size

Ø D x L (mm)

WV {SV} / uF	6.3 {8}		10 {13}		16 {20}		25 {32}		35 {44}	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
4.7	→	→	→	→	→	→	5x11	27	5x11	29
6.8	→	→	→	→	→	→	5x11	35	5x11	38
10	→	→	→	→	5x11	38	5x11	40	5x11	42
22	→	→	5x11	50	5x11	56	5x11	60	5x11	62
33	5x11	56	5x11	60	5x11	65	5x11	70	5x11	78
47	5x11	68	5x11	72	5x11	100	5x11	105	5x11 6.3x11	110 115
68	5x11	77	5x11	82	5x11	105	6.3x11	120	6.3x11	140
100	5x11	98	5x11	110	5x11 6.3x11	115 135	6.3x11	150	6.3x11 8x11	165 180
220	5x11 6.3x11	160 180	6.3x11	180	6.3x11 8x11	220 230	8x11	240	8x11 10x12	300 330
330	6.3x11	200	6.3x11 8x11	260 280	8x11	300	8x11 10x12	350 355	10x12 10x15	410 420
470	6.3x11 8x11	280 310	6.3x11 8x11	300 315	8x11 10x12	380 400	8x14 10x12	415 445	10x17 10x20	480 520
560	8x11	320	8x11	330	10x12	410	10x15	460	10x17	540
680	8x11	360	10x12	420	10x12	480	10x15	520	10x20	650
820	8x11	390	10x12	480	10x15	550	10x15	640	10x20	760
1000	8x11	420	10x12 10x15	530 580	8x16 10x15 10x17	570 600 630	10x15 10x17 10x20	740 800 850	10x25 13x21	870 880
1200	10x15	480	10x15	650	10x20	710	10x20	850		
1500	10x15	620	10x17	770	10x20	820	13x21	910	13x26	970
2200	10x17 10x20	780 800	10x17 10x20	870 900	13x21 13x26	1020 1060	13x21 13x26 16x16	1210 1270 1270	16x26 16x31	1300 1400
2700	10x20	850	13x21	920	13x21	1100	16x26	1330	16x31	1500
3300	10x20 13x21	970 1010	10x25 13x21	1110 1160	13x21 13x26	1220 1240	16x26 16x31	1480 1540	16x36	1680
4700	10x25 13x21	1160 1200	13x21 13x26	1360 1380	16x26	1620	16x31	1800	18x36	1900
5600	13x26	1320	16x26	1510	16x31	1720	16x36	1890	18x36	2000
6800	16x26	1470	16x26	1680	16x31	1880	18x36	2040	18x41	2090
8200	16x26	1520	16x31	1840	16x36	1950	18x36	2090	22x42	2180
10000	16x26 16x31	1690 1740	16x36 18x36	1900 1980	18x36 18x41	2060 2080	22x42	2200	25x44	2300
15000	16x36 18x36	2080 2190	18x36	2230	22x40	2300	22x42	2500	-	-

Ripple Current(mA,rms)at105□120Hz

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Case Size

Ø D x L (mm)

WV {SV} / uF	50 {63}		63 {79}		100 {125}		160 {200}		200 {250}	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.1	5x11	1.3	5x11	1.3	5x11	1.3	-	-	-	-
0.22	5x11	2.9	5x11	2.9	5x11	2.9	-	-	-	-
0.33	5x11	4.2	5x11	4.2	5x11	4.2	-	-	-	-
0.47	5x11	8	5x11	8	5x11	8	5x11	12	5x11	12
1	5x11	14	5x11	14	5x11	15	5x11	17	6.3x11	17
2.2	5x11	20	5x11	21	5x11	22	6.3x11	26	6.3x11	33
3.3	5x11	26	5x11	28	5x11	30	6.3x11	32	6.3x11	43
4.7	5x11	32	5x11	34	5x11	36	6.3x11 8x11	36 42	8x11	51
6.8	5x11	40	5x11	42	6.3x11	47	8x11	56	10x12	63
10	5x11	50	5x11	51	6.3x11	60	8x11 10x12	75 78	10x12 10x15	83 90
22	5x11	75	5x11 6.3x11	75 85	6.3x11 8x11	98 105	10x15	105	10x20	135
33	5x11 6.3x11	90 95	6.3x11 8x11	105 115	8x11 10x12	145 155	10x20	170	13x21	180
47	6.3x11	120	6.3x11 8x11	145 155	10x12 10x15	170 180	13x21	210	13x21 13x26	220 230
68	8x11	155	8x11	185	10x15	240	13x26	280	16x26	300
100	8x11	200	10x12	240	10x20	290	13x26 16x26	320 330	16x26	360
220	10x12 10x15	350 380	10x17 10x20	400 430	13x26 16x26	530 560	16x36	580	18x36	590
330	10x17 10x20	450 470	13x21	570	16x26	680	18x31	710	18x36	740
470	13x21	610	13x21 13x26 16x26	640 700 720	16x26 16x31	840 860	18x41	880	22x42	890
560	13x21	660	13x26	770	16x36	880	-	-	-	-
680	13x26	770	16x26	880	16x36	920	-	-	-	-
820	13x26	850	16x26	920	18x31	970	-	-	-	-
1000	13x26 16x26	900 1010	16x32 16x36	1190 1220	18x41	1250	-	-	-	-
1500	16x31	1300	18x31	1350	22x42	1500	-	-	-	-
2200	18x36	1550	18x36	1590	25x44	1880	-	-	-	-
2700	18x36	1610	22x42	1720	-	-	-	-	-	-
3300	18x36	1780	22x42	1900	-	-	-	-	-	-
4700	22x42	2050	25x44	2200	-	-	-	-	-	-
5600	25x42	2160	-	-	-	-	-	-	-	-
6800	25x44	2280	-	-	-	-	-	-	-	-

Ripple Current(mA,rms)at105□120Hz

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Case Size

Ø D x L (mm)

WV {SV} / uF	250	{300}	350	{400}	400	{450}	450	{500}
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.47	5x11	12	6.3x11	15	6.3x11	15	6.3x11	15
1	6.3x11	17	6.3x11	20	8x11	22	8x11	22
2.2	8x11	36	10x12	39	10x12	39	10x12	39
3.3	8x11	43	10x12	53	10x12 10x15	53 55	10x15 10x20	53 55
4.7	10x12	51	10x12 10x15	63 66	10x15	69	10x20	64
6.8	10x12	70	10x15	79	10x15	85	10x20	75
10	10x15	90	10x20	110	10x15 10X20 13x21	100 112 115	13x21 13x26	92 98
22	10x20	160	13x26	180	13x21 16x26	170 190	16x26 16x31	175 180
33	13x21 13x26	175 180	16x26	190	16x26	220	16x36	210
47	13x26	240	16x31	250	16x31	300	16x36	280
68	16x26	320	16x31	330	16x36	355	18x36	330
100	16x31	400	18x36	420	18x36	450	-	-
120					18x31	440		

Ripple Current(mA,rms)at105□120Hz