



Aluminum Electrolytic Capacitors

GA Series

Features

- 85°C Standard Axial series for general purpose
- RoHS Compliance



Specification

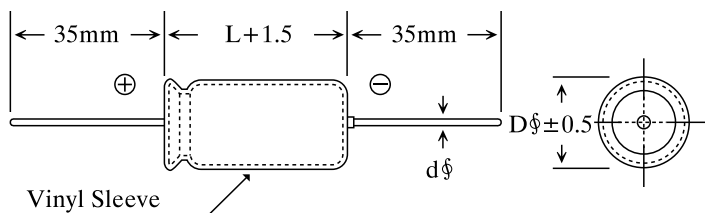
Items	Performance																								
Capacitance Tolerance	±20% (at 120Hz, 20°C)																								
Rated Voltage Range	10 to 100 VDC																								
Capacitance Range	1 to 4700 µF																								
Operating Temperature Range	-40 to +85°C																								
Leakage Current (at 20°C)	$I \leq 0.01 CV$ or $3 (\mu A)$, whichever is greater. After 2 minutes application of working voltage. I = Leakage current (μA), C = Rated capacitance (μF), V = Rated voltage (V)																								
Dissipation Factor (Tan δ at 120Hz, 20°C)	<table border="1"> <thead> <tr> <th>Rated Voltage</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>0.20</td> <td>0.17</td> <td>0.15</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> <td>0.10</td> </tr> </tbody> </table> For capacitance > 1000 µF, add 0.02 per 1000 µF increase.	Rated Voltage	10	16	25	35	50	63	100	Tan δ (max)	0.20	0.17	0.15	0.12	0.10	0.10	0.10								
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Low Temperature Characteristics (at 120Hz)	Impedance ratio max. <table border="1"> <thead> <tr> <th>Rated Voltage</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>Z-25°C/Z+20°C</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>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	Rated Voltage	10	16	25	35	50	63	100	Z-25°C/Z+20°C	3	2	2	2	2	2	2	Z-40°C/Z+20°C	8	6	4	3	3	3	3
Rated Voltage	10	16	25	35	50	63	100																		
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Load Life	After 1000 hours application of W.V. at 85°C, the capacitor shall meet the following limits. Capacitance change : $\leq \pm 25\%$ of initial value Dissipation factor : $\leq 200\%$ of initial specified value Leakage Current : \leq Initial specified value																								
Shelf Life	After storage for 500 hours at 85°C, with no voltage applied and being stabilized at +20°C, Capacitor shall meet the limit specified in load life.																								
Ripple Current & Frequency Multiplier	<table border="1"> <thead> <tr> <th>Freq.(Hz) \ Cap.(µF)</th> <th>60 (50)</th> <th>120</th> <th>500</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <tr> <td>Under 100</td> <td>0.75</td> <td>1.00</td> <td>1.20</td> <td>1.40</td> <td>1.50</td> </tr> <tr> <td>100 to 1000</td> <td>0.75</td> <td>1.00</td> <td>1.10</td> <td>1.20</td> <td>1.30</td> </tr> <tr> <td>1000 up above</td> <td>0.80</td> <td>1.00</td> <td>1.05</td> <td>1.12</td> <td>1.15</td> </tr> </tbody> </table>	Freq.(Hz) \ Cap.(µF)	60 (50)	120	500	1K	10K up	Under 100	0.75	1.00	1.20	1.40	1.50	100 to 1000	0.75	1.00	1.10	1.20	1.30	1000 up above	0.80	1.00	1.05	1.12	1.15
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DIAGRAM OF DIMENSIONS



LEAD SPACING AND DIAMETER Unit: mm

D	6.3 - 13	16 - 25
d	0.6	0.8

DIMENSION & PERMISSIBLE RIPPLE CURRENT

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

Ripple Current : mA/rms at 120Hz, 85°C

VDC μF	10V		16V		25V		35V		50V		63V		100V	
	$\varnothing D \times L$	mA	$\varnothing D \times L$	mA	$\varnothing D \times L$	mA	$\varnothing D \times L$	mA	$\varnothing D \times L$	mA	$\varnothing D \times L$	mA	$\varnothing D \times L$	mA
1									6x13	6	6x13	7	6x13	10
2.2									6x13	15	6x13	17	6x13	20
3.3									6x13	25	6x13	28	6x13	34
4.7									6x13	35	6x13	38	6x13	40
10									6x13	52	6x13	55	8x16	78
22									6x13	82	6x13	93	8x16	105
33					6x13	75	6x13	90	8x16	105	8x16	110	8x21	115
47					6x13	92	6x13	105	8x16	135	8x16	158	10x21	190
100			6x13	148	8x13	175	8x16	200	8x16	223	10x21	260	13x21	340
220			8x16	278	8x16	297	10x16	362	10x21	420	13x22	471	16x28	570
330	8x16	317	8x16	340	10x21	415	10x21	464	13x22	552	13x27	618		
470	8x16	370	8x16	410	10x21	485	10x21	560	13x27	690	13x27	729		
1000	10x21	590	10x21	680	13x22	740	13x27	839	16x32	974	16x36	1112		
2200	13x22	910	13x22	980	16x28	1134	16x32	1152	18x36	1399	22x42	1544		
3300	13x27	1050	16x28	1254	16x32	1411	18x36	1640	20x36	1810	22x42	1882		
4700	16x28	1250	16x32	1451	18x36	1581	20x36	1918	22x41	2047	25x43	2530		