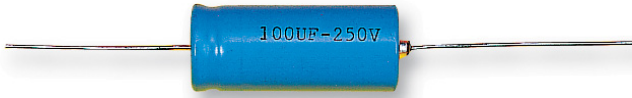


ECA 1 Series

General Purpose Capacitors



Features:

- Low impedance characteristics.
- Case sizes are smaller than conventional general-purpose capacitors, with very high performance.
- Case sizes larger than 8mm diameter have a safety vent on the rubber bung.
- General purpose 85°C.
- Axial leaded electrolytic.

Characteristics

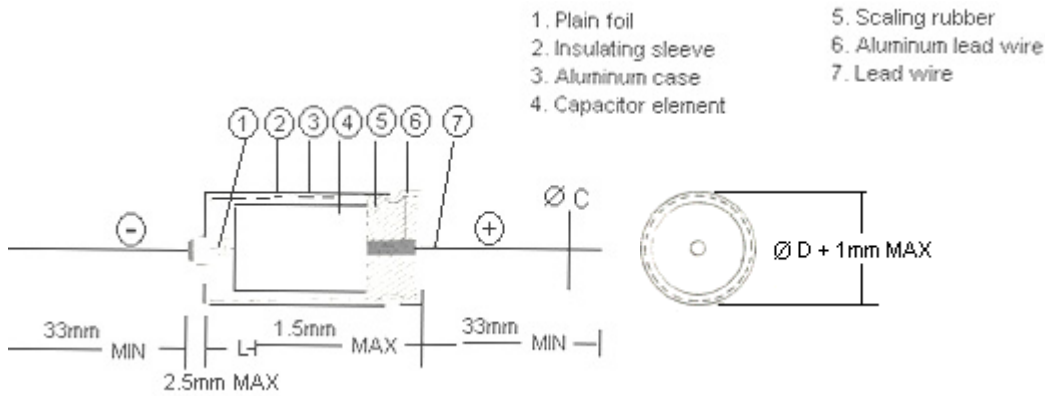
Item	Characteristics																																			
Capacitance tolerance	±20% (at 20°C, 120Hz)																																			
Leakage current	$I = 0.02CV$ or $3\mu A$ (10 to 100V dc) whichever is greater (after 3 minutes applying the rated DC working voltage at 20°C) Where C = rated capacitance in μF V = rated DC working voltage in V.																																			
Dissipation factor ($\tan\delta$) (at 20°C, 120Hz)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>40</th> <th>50</th> <th>63</th> <th>100</th> <th>250</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>$\tan\delta$</td> <td>0.2</td> <td>0.17</td> <td>0.15</td> <td>0.12</td> <td>0.11</td> <td>0.1</td> <td>0.09</td> <td>0.08</td> <td>0.2</td> <td>0.24</td> </tr> </tbody> </table> <p>For capacitors whose capacitance exceeds 1000μF, the specification of $\tan\delta$ is increased by 0.02 for every addition of 1000μF.</p>	Rated Voltage (V)	10	16	25	35	40	50	63	100	250	450	$\tan\delta$	0.2	0.17	0.15	0.12	0.11	0.1	0.09	0.08	0.2	0.24													
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Low temperature characteristics	1. Capacitors at -40°C shall not be less than 80% of the value at 20°C 2. Impedance ratio at 120Hz <table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>40</th> <th>50</th> <th>63</th> <th>100</th> <th>250</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Z - 25°C/Z 20°C</td> <td>3</td> <td colspan="6">2</td> <td>8</td> <td>16</td> <td></td> <td></td> </tr> <tr> <td>Z - 40°C/Z 20°C</td> <td>6</td> <td>4</td> <td colspan="5">3</td> <td>-</td> <td>-</td> <td></td> <td></td> </tr> </tbody> </table>	Rated Voltage (V)	10	16	25	35	40	50	63	100	250	450	Z - 25°C/Z 20°C	3	2						8	16			Z - 40°C/Z 20°C	6	4	3					-	-		
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Z - 40°C/Z 20°C	6	4	3					-	-																											
Load life	After 1000 hours application of the rated voltage at 85°C, the capacitors meet the characteristic requirements listed below. <table border="1"> <tbody> <tr> <td>Leakage current</td> <td>initial specified value or less</td> </tr> <tr> <td>Capacitance change</td> <td>within ±20% of initial value</td> </tr> <tr> <td>$\tan\delta$</td> <td>200% or less of initial specified value</td> </tr> </tbody> </table>	Leakage current	initial specified value or less	Capacitance change	within ±20% of initial value	$\tan\delta$	200% or less of initial specified value																													
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Shelf life	After leaving capacitors under no load at 85°C for 1000 hours and applying voltage they meet the specified value for load life characteristics listed above.																																			

ECA 1 Series

General Purpose Capacitors



Diagram Of Dimensions:



Lead Wire Dimensions

ϕD	6 to 13	16 to 25
ϕd	0.6	0.8

Dimensions : Millimetres

Allowable ripple current Vs ambient temperature

Ambient temperature (°C)	<70°C	+85°C
Coefficient	1.27	1.0

Frequency coefficient of allowable ripple current

WV	Frequency (Hz)		120	320	1K	>10K
	Capacitance (μF)					
10 to 100	0.47 to 47		1	1.35	1.57	2.00
	100 to 470			1.23	1.34	1.5
	1000 to 10,000			1.10	1.13	1.15



ECA 1 Series

General Purpose Capacitors



Specifications

Capacitance (µF)	Voltage (V)	Case Size (Diameter x Length)	Lead Diameter	Allowable Ripple Current (mA)**	Operating Temperature (°C)	Part Number
47	10	5 x 13	0.6	-	-40°C to +85°C	912-840
100		6 x 13		-		912-852
220		8 x 13		210		912-864
470		8 x 16		350		912-876
1000		10 x 17	640	912-888		
2200		13 x 22	1090	912-890		
4700		16 x 28	0.8	1730		912-906
22		16	5 x 13	0.6		-
47	6 x 13		-			912-920
100	6.3 x 14		160			912-931
220	8 x 13		-			912-943
470	8 x 16		-	912-955		
1000	10 x 21		770	912-967		
2200	13 x 24		1180	912-979		
4700	16 x 33		0.8	-		912-980
10	25	5 x 13	0.6	-		912-992
22		6 x 13		-	913-005	
47		8 x 13		170	913-017	
100		8 x 16		280	913-029	
220		10 x 21	-	913-030		
470		13 x 22	900	913-042		
1000		16 x 28	1480	913-054		
2200		18 x 36	0.8	2170	913-066	
4700	35	5 x 13	0.6	-	913-078	
10		6.3 x 14		120	913-080	
22		8 x 16		210	913-091	
47		10 x 17		340	913-108	
100		13 x 22	610	913-110		
220		13 x 27	-	913-121		
470		16 x 36	0.8	-	913-133	
1000		22 x 43	-	-	913-145	
2200	63	6 x 13	0.6	-	913-157	
47		6.3 x 14		90	913-169	
10		8 x 16		160	913-170	
22					913-182	
47					913-194	

** Ripple Current at 85°C, 120Hz

Dimensions : Millimetres



ECA 1 Series

General Purpose Capacitors



Specifications

Capacitance (μF)	Voltage (V)	Case Size (Diameter x Length)	Lead Diameter	Allowable Ripple Current (mA)**	Operating Temperature (°C)	Part Number
100	63	10 x 17	0.6	260	-40°C to +85°C	913-200
220		13 x 22		480		913-212
470		13 x 27		-		913-224
1000		16 x 33	0.8	-		913-236
2200		20 x 42		2160		913-248
4700		25 x 52		-		913-250
1	100	5 x 13	0.6	-		913-261
2.2				-		913-273
4.7		6 x 13		-		913-285
10		6.3 x 14		-		913-297
22		8 x 6		-		913-303
47		10 x 21		-		913-315
100		13 x 22		340	913-327	
1.0	250	6 x 16	0.8	-	-25°C to +85°C	913-339
2.2		8 x 16		35		913-340
4.7		8 x 20		-		913-352
10		10 x 21		69		913-364
22		13 x 26		-		913-376
47		16 x 32		-		913-388
100	16 x 40	-	913-390			
1	450	8 x 16	0.6	19		913-406
2.2		10 x 21		-		913-418
4.7		10 x 26		46		913-420
10		13 x 26	-	913-431		
22		16 x 32	0.8	-		913-443
100		25 x 50		-	913-467	

** Ripple Current at 85°C, 120Hz

Dimensions : Millimetres



ECA 1 Series

General Purpose Capacitors



Notes:

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