

# ECA 2 Series

## High Temp. Electrolytic Capacitors



### Features:

- Axial leaded electrolytic.
- Wide operating temperature range, from -40°C to +105°C.
- Excellent temperature performance.
- Suitable to use for industrial equipment.
- Lead Length = 30m.

### Characteristics

Item	Characteristics																																						
Operating Temperature Range	-40°C to +105°C																																						
Capacitance Tolerance	±20% (at 20°C, 120Hz)																																						
Leakage Current	$I = 0.02CV$ or $4\mu A$ whichever is greater (after 2 minutes applying the rated DC working voltage at 20°C) where : C = Rated capacitance in $\mu F$ 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>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>(<math>\tan\delta</math>)</td> <td>0.20</td> <td>0.17</td> <td>0.15</td> <td>0.12</td> <td>0.09</td> <td>0.08</td> </tr> </tbody> </table> <p>For capacitors whose capacitance exceeds 1000<math>\mu F</math> the specification of <math>\tan\delta</math> is increased by 0.02 for every addition of 1000<math>\mu F</math>                      ≤12% (120Hz, 20°C) for 913-716</p>	Rated Voltage (V)	10	16	25	35	63	100	( $\tan\delta$ )	0.20	0.17	0.15	0.12	0.09	0.08																								
Rated Voltage (V)	10	16	25	35	63	100																																	
( $\tan\delta$ )	0.20	0.17	0.15	0.12	0.09	0.08																																	
Surge Voltage	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>(Surge Voltage (V))</td> <td>13</td> <td>20</td> <td>32</td> <td>44</td> <td>79</td> <td>125</td> </tr> </tbody> </table>	Rated Voltage (V)	10	16	25	35	63	100	(Surge Voltage (V))	13	20	32	44	79	125																								
Rated Voltage (V)	10	16	25	35	63	100																																	
(Surge Voltage (V))	13	20	32	44	79	125																																	
Low Temperature Characteristics	1. Capacitance at +105°C shall not be higher than 115% of the value at 20°C (120Hz) 2. Impedance ratio at 120Hz <table border="1"> <thead> <tr> <th colspan="2">Rated Voltage (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Z(-25°C) /Z(+20°C)</td> <td><math>\phi D &lt; 16</math></td> <td colspan="2">3</td> <td colspan="4">2</td> </tr> <tr> <td><math>\phi D \geq 16</math></td> <td colspan="2">4</td> <td colspan="4">3</td> </tr> <tr> <td rowspan="2">Z(-40°C) /Z(+20°C)</td> <td><math>\phi D &lt; 16</math></td> <td colspan="2">6</td> <td colspan="2">4</td> <td colspan="2">3</td> </tr> <tr> <td><math>\phi D \geq 16</math></td> <td>10</td> <td colspan="3">8</td> <td colspan="2">6</td> </tr> </tbody> </table>	Rated Voltage (V)		10	16	25	35	63	100	Z(-25°C) /Z(+20°C)	$\phi D < 16$	3		2				$\phi D \geq 16$	4		3				Z(-40°C) /Z(+20°C)	$\phi D < 16$	6		4		3		$\phi D \geq 16$	10	8			6	
Rated Voltage (V)		10	16	25	35	63	100																																
Z(-25°C) /Z(+20°C)	$\phi D < 16$	3		2																																			
	$\phi D \geq 16$	4		3																																			
Z(-40°C) /Z(+20°C)	$\phi D < 16$	6		4		3																																	
	$\phi D \geq 16$	10	8			6																																	

# ECA 2 Series

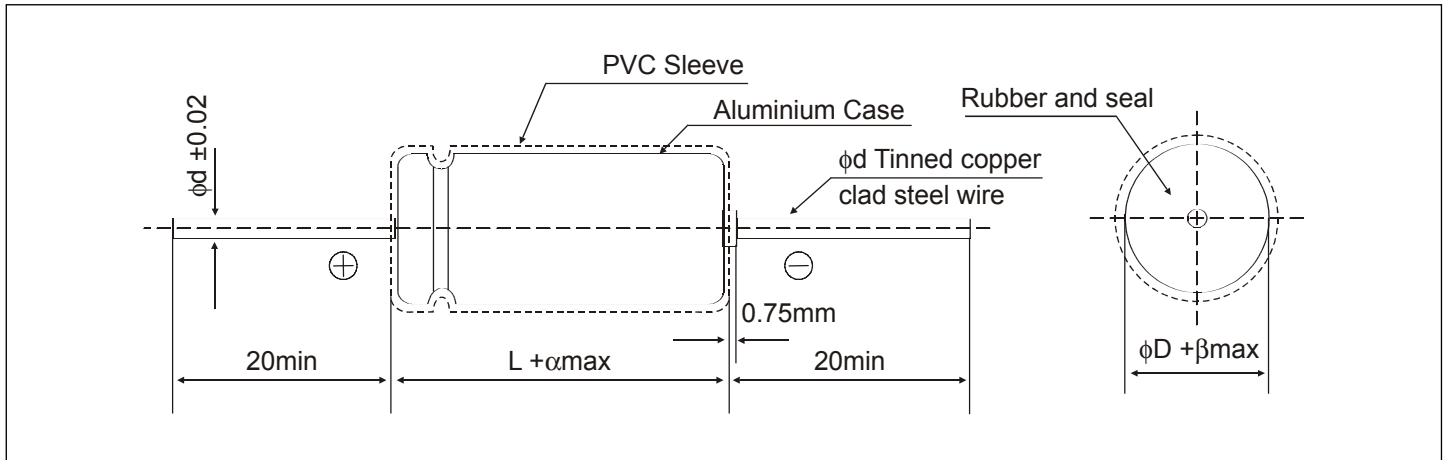
## High Temp. Electrolytic Capacitors



### Characteristics

Item	Characteristics		
Load Life	After 1000 hours application of rated voltage at 105°C, capacitors meet the characteristics requirements listed at right	Leakage Current	Initial specified value or less
		Dissipation Factor	Less than 200% of specified value
		Capacitance Change	Within $\pm 20\%$ of initial value
Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours and applying voltage they meet the specified value for load life characteristics listed above		

### Diagram of Dimensions



$\phi D$	05	06	6.3	08	10	13	16	18	20	22
$\phi d$	0.6						0.8			
$\infty$	1.5				2.0					
$\beta$	0.5				1.0					

Dimensions : Millimetres



# ECA 2 Series

## High Temp. Electrolytic Capacitors



### Part Numbers

Capacitance (μF)	Voltage (V)	Length (L)	Diameter (φD)	Lead Diameter (φd)	Part Number
47	10	13	5	0.6	913-479
100			6		913-480
220			8		913-492
470		16	10		913-509
1000		17	13		913-510
2200		22	13		913-522
47		16	13		6
100	14		6.3	913-546	
220	13		8	913-558	
470	16		8	913-560	
1000	21		10	913-571	
2200	24		13	913-583	
4700	33		16	0.8	913-595
10	25	13	5	0.6	913-601
22			6		913-613
47			8		913-625
100		16	10	913-637	
220			13	913-649	
470			16	913-650	
1000		22	13	913-662	
2200		28	16	0.8	913-674
4700		36	18	0.8	913-686
10	35	13	5	0.6	913-698
22			6		913-704
47			6.3		913-716*
100		16	8	913-728	
220		17	10	913-730	
470		22	13	913-741	
1000		27	13	913-753	
2200		36	16	0.8	913-765
4700		42	22	0.8	913-777

\* Ripple current (rms 120Hz) : 114mA

Dimensions : Millimetres



# ECA 2 Series

## High Temp. Electrolytic Capacitors



### Part Numbers

Capacitance (μF)	Voltage (V)	Length (L)	Diameter (φD)	Lead Diameter (φd)	Part Number
10	63	13	6	0.6	913-789
22		14	6.3		913-790
47		16	8		913-807
100		17	10		913-819
220		22	13		913-820
470		27	13		913-832
1000		33	16		1633
2200		42	20		913-856
0.1		100	13		5
2.2	6				913-870
4.7	14		6.3		913-881
10			8		913-893
22	16		8		913-900
47	21		10		913-911
100	22		13		913-923

Dimensions : Millimetres



# ECA 2 Series

## High Temp. Electrolytic Capacitors



### Notes:

### International Sales Offices:



**AUSTRALIA – Farnell InOne**  
Tel No: ++ 61 2 9645 8888  
Fax No: ++ 61 2 9644 7898



**FINLAND – Farnell InOne**  
Tel No: ++ 358 9 560 7780  
Fax No: ++ 358 9 345 5411



**NETHERLANDS – Farnell InOne**  
Tel No: ++ 31 30 241 7373  
Fax No: ++ 31 30 241 7333



**SWITZERLAND – Farnell InOne**  
Tel No: ++ 41 1 204 64 64  
Fax No: ++ 41 1 204 64 54



**AUSTRIA – Farnell InOne**  
Tel No: ++ 43 662 2180 680  
Fax No: ++ 43 662 2180 670



**FRANCE – Farnell InOne**  
Tel No: ++ 33 474 68 99 99  
Fax No: ++ 33 474 68 99 90



**NEW ZEALAND – Farnell InOne**  
Tel No: ++ 64 9 357 0646  
Fax No: ++ 64 9 357 0656



**UK – Farnell InOne**  
Tel No: ++ 44 8701 200 200  
Fax No: ++ 44 8701 200 201



**BELGIUM – Farnell InOne**  
Tel No: ++ 32 3 475 2810  
Fax No: ++ 32 3 227 3648



**GERMANY – Farnell InOne**  
Tel No: ++ 49 89 61 39 39 39  
Fax No: ++ 49 89 613 59 01



**NORWAY – Farnell InOne**  
Tel No: ++ 45 44 53 66 66  
Fax No: ++ 45 44 53 66 02



**UK – BuckHickman InOne**  
++ 44 8450 510 150  
++ 44 8450 510 130



**BRAZIL – Farnell-Newark InOne**  
Tel No: ++ 55 11 4066 9400  
Fax No: ++ 55 11 4066 9410



**HONG KONG – Farnell-Newark InOne**  
Tel No: ++ 852 2268 9888  
Fax No: ++ 852 2268 9899



**PORTUGAL – Farnell InOne**  
Tel No: ++ 34 93 475 8804  
Fax No: ++ 34 93 474 5288



**UK – CPC**  
++ 44 8701 202 530  
++ 44 8701 202 531



**CHINA – Farnell-Newark InOne**  
Tel No: ++86 10 6238 5152  
Fax No: ++86 10 6238 5022



**IRELAND – Farnell InOne**  
Tel No: ++ 353 1 830 9277  
Fax No: ++ 353 1 830 9016



**SINGAPORE – Farnell-Newark InOne**  
Tel No: ++ 65 6788 0200  
Fax No: ++ 65 6788 0300



**EXPORT – Farnell InOne**  
Tel No: ++ 44 8701 200 208  
Fax No: ++ 44 8701 200 209

For enquiries from all other markets



**DENMARK – Farnell InOne**  
Tel No: ++ 45 44 53 66 44  
Fax No: ++ 45 44 53 66 06



**ITALY – Farnell InOne**  
Tel No: ++ 39 02 93 995 200  
Fax No: ++ 39 02 93 995 300



**SPAIN – Farnell InOne**  
Tel No: ++ 34 93 475 8805  
Fax No: ++ 34 93 474 5107



**ESTONIA – Farnell InOne**  
Tel No: ++ 358 9 560 7780  
Fax No: ++ 358 9 345 5411



**MALAYSIA – Farnell-Newark InOne**  
Tel No: ++ 60 3 7873 8000  
Fax No: ++ 60 3 7873 7000



**SWEDEN – Farnell InOne**  
Tel No: ++ 46 8 730 50 00  
Fax No: ++ 46 8 83 52 62

<http://www.farnellinone.com>

<http://www.buckhickmaninone.com>

<http://www.cpc.co.uk>

**Disclaimer** This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2004.

