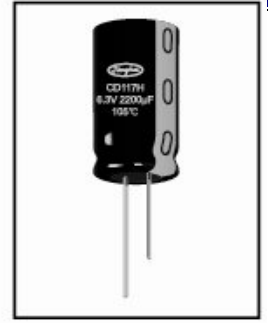
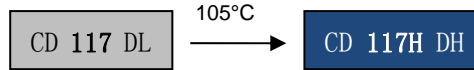


2000 h at 105°C

- Load life of 2000 hours at 105°C
- Low Leakage Current
- Close Tolerance

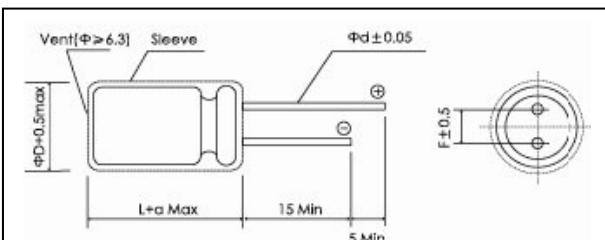


Items	Characteristics																													
Operating Temperature Range(°C)	-40~ +105																													
Capacitance Tolerance (20°C,120Hz)	±20% or ±10%																													
Leakage Current (µA)	After 1 minutes at 20°C application of rated voltage, leakage current is not more than 0.008CV or 1.0µA, whichever is greater C:Nominal Capacitance(µF) V:Rated Voltage(V)																													
Dissipation Factor (20°C, 120Hz)	<table border="1"> <thead> <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> </tr> </thead> <tbody> <tr> <td>Tan δ(max)</td> <td>~ φ 10×12.5</td> <td>0.18</td> <td>0.15</td> <td>0.12</td> <td>0.08</td> <td>0.08</td> <td>0.08</td> <td>0.07</td> <td>0.07</td> </tr> <tr> <td></td> <td>φ 10×16</td> <td>0.21</td> <td>0.17</td> <td>0.14</td> <td>0.12</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </tbody> </table>	Rated Voltage(V)	6.3	10	16	25	35	50	63	100	Tan δ(max)	~ φ 10×12.5	0.18	0.15	0.12	0.08	0.08	0.08	0.07	0.07		φ 10×16	0.21	0.17	0.14	0.12	0.12	0.10	0.08	0.08
	Rated Voltage(V)	6.3	10	16	25	35	50	63	100																					
Tan δ(max)	~ φ 10×12.5	0.18	0.15	0.12	0.08	0.08	0.08	0.07	0.07																					
	φ 10×16	0.21	0.17	0.14	0.12	0.12	0.10	0.08	0.08																					
Stability at Low Temperature (Impedance Ratio at 120Hz)	<table border="1"> <thead> <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> </tr> </thead> <tbody> <tr> <td rowspan="2">Impedance Ratio</td> <td>Z_{-25°C/+20°C}</td> <td>4</td> <td>3</td> <td>2</td> <td colspan="4">1.5</td> </tr> <tr> <td>Z_{-40°C/+20°C}</td> <td>8</td> <td>6</td> <td colspan="2">4</td> <td colspan="3">3</td> </tr> </tbody> </table>	Rated Voltage(V)	6.3	10	16	25	35	50	63	100	Impedance Ratio	Z _{-25°C/+20°C}	4	3	2	1.5				Z _{-40°C/+20°C}	8	6	4		3					
	Rated Voltage(V)	6.3	10	16	25	35	50	63	100																					
Impedance Ratio	Z _{-25°C/+20°C}	4	3	2	1.5																									
	Z _{-40°C/+20°C}	8	6	4		3																								

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	3000h	200000h	2000h	2000h	1000h
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value
Capacitance Change	Within ±30% of initial value		Within ± 15% of initial value	Within ± 15% of initial value	Within ± 15% of initial value
Dissipation Factor	Not more than 300% of specified value		Not more than 150% of specified value	Not more than 150% of specified value	Not more than 150% of specified value
Condition: Applied Voltage Applied Current Applied Temperature	U _R I _R 105°C	U _R 1.2 x I _R 40°C	U _R I _R 105°C	U _R I _R = 0 105°C	U _R = 0 I _R = 0 105°C After test: U _R to be applied for 30min>24h before measurement

Dimensions

mm



ΦD	5	6.3	8	10	12.5	16	18
F	2.0	2.5	3.5	5.0		7.5	
Φd	0.5		0.6			0.8	
a	1.5			2.0			

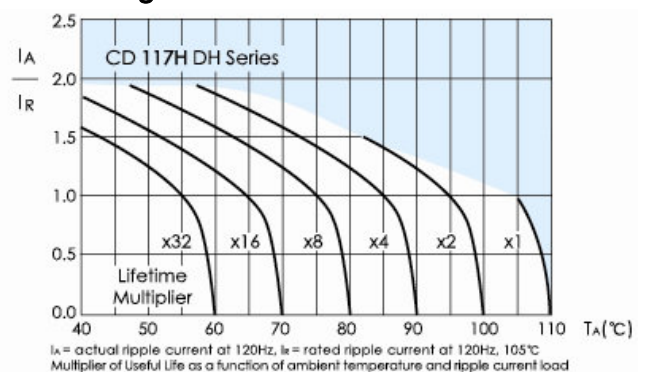
Temperature Coefficient

Temperature(°C)	+70	+85	+105
Coefficient	1.80	1.40	1.00

Frequency Coefficient

Frequency	50-60Hz	120Hz	1kHz	≥10kHz
Cap(µF)				
10-68	0.75	1.00	1.57	2.10
100-680	0.80	1.00	1.34	1.50
1000-10000	0.85	1.00	1.13	1.15

Lifetime Diagram



Ratings for CD **117H** DH Series

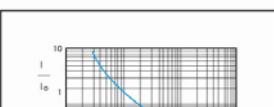
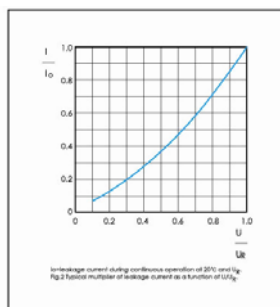
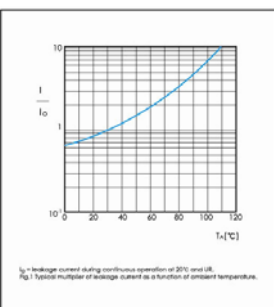
U _r (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Rated Ripple Current 105°C, 120Hz	Size ΦD×L	P/N
(v)	(μF)	(Ω)	(mArms)	(mm)	-
6.3 (7.2) 0J	470	0.51	390	10x12.5	ECR0JDL471M□□100012
	680	0.41	480	10X16	ECR0JDL681M□□100016
	1000	0.28	650	10x20	ECR0JDL102M□□100020
	1500	0.19	910	12.5x25	ECR0JDL152M□□125025
	2200	0.13	1060	12.5x25	ECR0JDL222M□□125025
	3300	0.08	1270	16x25	ECR0JDL332M□□160025
	4700	0.06	1500	16x31.5	ECR0JDL472M□□160031
	6800	0.04	1760	18x35.5	ECR0JDL682M□□180035
	10000	0.03	1900	18x40	ECR0JDL103M□□180040
10 (13) 1A	47	4.23	110	5X11.5	ECR1ADL470M□□050011
	68	2.93	150	6.3x11.5	ECR1ADL680M□□063011
	100	1.99	180	6.3x11.5	ECR1ADL101M□□063011
	150	1.33	250	8x11.5	ECR1ADL151M□□080011
	220	0.90	310	8x11.5	ECR1ADL221M□□080011
	330	0.60	400	10x12.5	ECR1ADL331M□□100012
	470	0.48	530	10x16	ECR1ADL471M□□100016
	680	0.33	600	10x20	ECR1ADL681M□□100020
	1000	0.23	810	12.5x20	ECR1ADL102M□□125020
	1500	0.15	1020	12.5x25	ECR1ADL152M□□125025
	2200	0.10	1200	16x25	ECR1ADL222M□□160025
	3300	0.07	1420	16x31.5	ECR1ADL332M□□160031
	4700	0.05	1650	16x35.5	ECR1ADL472M□□160035
6800	0.03	1890	18x35.5	ECR1ADL682M□□180035	
16 (20) 1C	10	15.92	55	5x11.5	ECR1CDL100M□□050011
	15	10.62	70	5x11.5	ECR1CDL150M□□050011
	22	7.24	85	5x11.5	ECR1CDL220M□□050011
	33	4.83	100	5x11.5	ECR1CDL330M□□050011
	47	3.39	140	6.3x11.5	ECR1CDL470M□□063011
	68	2.34	160	6.3X11.5	ECR1CDL680M□□063011
	100	1.59	230	8x11.5	ECR1CDL101M□□080011
	150	1.06	280	8x11.5	ECR1CDL151M□□080011
	220	0.72	370	10x12.5	ECR1CDL221M□□100012
	330	0.56	420	10x16	ECR1CDL331M□□100016
	470	0.40	550	10x20	ECR1CDL471M□□100020
	680	0.27	730	12.5x20	ECR1CDL681M□□125020
	1000	0.19	910	12.5x25	ECR1CDL102M□□125025
	1500	0.12	1150	16x25	ECR1CDL152M□□160025
	2200	0.08	1300	16x25	ECR1CDL222M□□160025
3300	0.06	1550	16x35.5	ECR1CDL332M□□160035	
4700	0.04	1820	16x35.5	ECR1CDL472M□□160035	
25 (32) 1E	4.7	22.59	45	5x11.5	ECR1EDL4R7M□□050011
	6.8	15.61	55	5X11.5	ECR1EDL6R8M□□050011
	10	10.62	70	5x11.5	ECR1EDL100M□□050011
	15	7.08	85	5x11.5	ECR1EDL150M□□050011

22	4.83	100	5x11.5	ECR1EDL220M□□050011
33	3.22	140	6.3x11.5	ECR1EDL330M□□063011
47	2.26	170	6.3x11.5	ECR1EDL470M□□063011
68	1.56	230	8x11.5	ECR1EDL680M□□080011
100	1.06	280	8x11.5	ECR1EDL101M□□080011
150	0.71	370	10x12.5	ECR1EDL151M□□100012
220	0.72	400	10x16	ECR1EDL221M□□100016
330	0.48	490	10x20	ECR1EDL331M□□100020
470	0.34	600	12.5x20	ECR1EDL471M□□125020
680	0.23	810	12.5x25	ECR1EDL681M□□125025
1000	0.16	1010	16X25	ECR1EDL102M□□160025

Ratings for CD 117H DH Series

U _R (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size ΦD×L	P/N
(v)	(μF)	(Ω)	(mArms)	(mm)	-
63 (79) 1J	470	0.23	850	16x25	ECR1JDL471M□□160025
	680	0.16	1050	16x31.5	ECR1JDL681M□□160031
	1000	0.11	1330	18x35.5	ECR1JDL102M□□180035
100 (125) 2A	0.1	928.87	2.1	5x11.5	ECR2ADL0R1M□□050011
	0.15	619.25	3.2	5X11.5	ECR2ADLR15M□□050011
	0.22	422.22	4.7	5X11.5	ECR2ADLR22M□□050011
	0.33	281.48	7.0	5x11.5	ECR2ADLR33M□□050011
	0.47	197.63	10.1	5x11.5	ECR2ADLR47M□□050011
	0.68	136.60	14.5	5x11.5	ECR2ADLR68M□□050011
	1	92.89	19	5x11.5	ECR2ADL010M□□050011
	1.5	61.92	23	5x11.5	ECR2ADL1R5M□□050011
	2.2	42.22	28	5X11.5	ECR2ADL2R2M□□050011
	3.3	28.15	45	5X11.5	ECR2ADL3R3M□□050011
	4.7	19.76	50	5x11.5	ECR2ADL4R7M□□050011
	6.8	13.66	65	6.3x11.5	ECR2ADL6R8M□□063011
	10	9.29	90	8x11.5	ECR2ADL100M□□080011
	15	6.19	110	8x11.5	ECR2ADL150M□□080011
	22	4.22	136	10x12.5	ECR2ADL220M□□100012
	33	3.22	180	10x16	ECR2ADL330M□□100016
	47	2.26	220	10x20	ECR2ADL470M□□100020
	68	1.56	290	10x20	ECR2ADL680M□□100020
	100	1.06	370	12.5x20	ECR2ADL101M□□125020
	150	0.71	470	12.5x25	ECR2ADL151M□□125025
220	0.48	580	16x25	ECR2ADL221M□□160025	
330	0.32	730	16x31.5	ECR2ADL331M□□160031	
470	0.23	910	16X35.5	ECR2ADL471M□□160035	

U _R (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Rated Ripple Current 105°C, 120Hz	Size ΦD×L	P/N
(v)	(μF)	(Ω)	(mArms)	(mm)	-
25 (32) 1E	1500	0.11	1270	16x31.5	ECR1EDL152M□□160031
	2200	0.07	1440	16x35.5	ECR1EDL222M□□160035
	3300	0.05	1720	18x40	ECR1EDL332M□□180040
35 (44) 1V	15	7.08	85	5x11.5	ECR1VDL150M□□050011
	22	4.83	110	6.3x11.5	ECR1VDL220M□□063011
	33	3.22	140	6.3x11.5	ECR1VDL330M□□063011
	47	2.26	190	8x11.5	ECR1VDL470M□□080011
	68	1.56	230	8X11.5	ECR1VDL680M□□080011
	100	1.06	300	10x12.5	ECR1VDL101M□□100012
	150	1.06	400	10x16	ECR1VDL151M□□100016
	220	0.72	440	10x20	ECR1VDL221M□□100020
	330	0.48	550	12.5x20	ECR1VDL331M□□125020
	470	0.34	680	12.5x25	ECR1VDL471M□□125025
	680	0.23	840	16X25	ECR1VDL681M□□160025
1000	0.16	1100	16X25	ECR1VDL102M□□160025	
1500	0.11	1390	16x35.5	ECR1VDL152M□□160035	
2200	0.07	1580	16x35.5	ECR1VDL222M□□160035	
50 (63) 1H	0.1	1061.57	1.1	5x11.5	ECR1HDL0R1M□□050011
	0.15	707.71	1.6	5x11.5	ECR1HDLR15M□□050011
	0.22	482.53	2.3	5X11.5	ECR1HDLR22M□□050011
	0.33	321.69	3.5	5x11.5	ECR1HDLR33M□□050011
	0.47	225.87	5.0	5x11.5	ECR1HDLR47M□□050011
	0.68	156.11	7.3	5x11.5	ECR1HDLR68M□□050011
	1	106.16	10.7	5x11.5	ECR1HDL010M□□050011
	1.5	70.77	16	5x11.5	ECR1HDL1R5M□□050011
	2.2	48.25	23	5X11.5	ECR1HDL2R2M□□050011
	3.3	32.17	40	5X11.5	ECR1HDL3R3M□□050011
	4.7	22.59	45	5x11.5	ECR1HDL4R7M□□050011
	6.8	15.61	55	5x11.5	ECR1HDL6R8M□□050011
	10	10.62	70	5x11.5	ECR1HDL100M□□050011
	15	7.08	95	6.3x11.5	ECR1HDL150M□□063011
	22	4.83	110	6.3x11.5	ECR1HDL220M□□063011
	33	3.22	165	8x11.5	ECR1HDL330M□□080011
	47	2.26	190	8x11.5	ECR1HDL470M□□080011
68	1.56	250	10x12.5	ECR1HDL680M□□100012	
100	1.33	320	10x16	ECR1HDL101M□□100016	
150	0.88	420	10x20	ECR1HDL151M□□100020	
220	0.60	490	12.5x20	ECR1HDL221M□□125020	
330	0.40	600	12.5X20	ECR1HDL331M□□125020	
470	0.28	760	16X25	ECR1HDL471M□□160025	
680	0.20	910	16x25	ECR1HDL681M□□160025	
1000	0.13	1140	16x31.5	ECR1HDL102M□□160031	
1500	0.09	1480	18x40	ECR1HDL152M□□180040	
63 (79) 1J	6.8	13.66	59	5x11.5	ECR1JDL6R8M□□050011
	10	9.29	75	6.3x11.5	ECR1JDL100M□□063011
	15	6.19	100	6.3x11.5	ECR1JDL150M□□063011
	22	4.22	115	8x11.5	ECR1JDL220M□□080011
	33	2.81	170	8x11.5	ECR1JDL330M□□080011
	47	1.98	200	10x12.5	ECR1JDL470M□□100012
	68	1.56	270	10x16	ECR1JDL680M□□100016
	100	1.06	330	10x20	ECR1JDL101M□□100020
	150	0.71	450	12.5x20	ECR1JDL151M□□125020
	220	0.48	550	12.5x20	ECR1JDL221M□□125020
	330	0.32	710	12.5x25	ECR1JDL331M□□125025



Customer products are available on request.