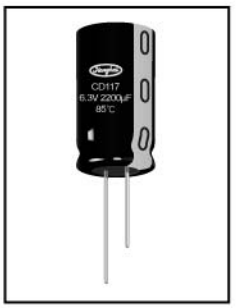
2000h at 85℃

- Load life of 2000 hours at 85℃
- Low Leakage Current
- Close Tolerance



Items	Characteristics
Operating Temperature Range (℃)	-40 ~ +85
Capacitance Tolerance (20℃, 120Hz)	±20% or ±10%
Leakage Current (μA)	After 1 minute at 20℃application of rated voltage, leakage current is not more than 0.008CV or 1.0μA, wichever is greater. C: Nominal Capacitance (μF) V: Rated Voltage (V)

Dissipation Factor (20℃, 120Hz)

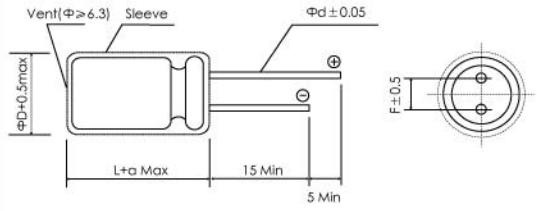
Rated Voltage (V)		6.3	10	16	25	35	50	63	100
Tan δ (max)	Φ10×12.5	0.18	0.15	0.12	0.08	0.08	0.08	0.07	0.07
	Φ10×16	0.21	0.17	0.14	0.12	0.12	0.10	0.08	0.08

Stability at Low Temperature (Impedance Ratio at 120Hz)

Rated Voltage (V)		6.3	10	16	25	35	50	63	100
Impedance ratio	$Z_{-25℃}/Z_{+20℃}$	4	3	2	1.5				
	$Z_{-40℃}/Z_{+20℃}$	8	6	4		3			

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	3000h	> 50000h	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 Failure Rate Level	U_R I_R 85℃ ⩽ 1% Failure Rate	U_R 1.2 x I_R 40℃ ⩽ 1% Failure Rate	U_R I_R 85℃ guaranteed	U_R I_R = 0 85℃	U_R = 0 I_R = 0 85℃ 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	1.0			2.0			

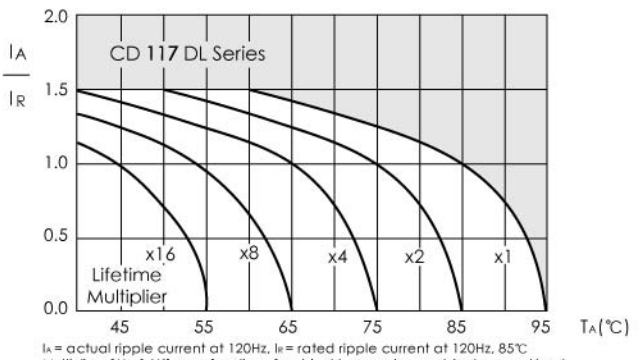
Tempercture Coefficient

Temperature(℃)	+70	+85
Coefficient	1.35	1

Frequency Coefficient

Frequency / Cap (μF)	50~60Hz	120Hz	1kHz	⩾10kHz
~ 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



I_A = actual ripple current at 120Hz, I_R = rated ripple current at 120Hz, 85℃
Multiplier of Useful Life as a function of ambient temperature and ripple current load

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Ratings for CD 117 DL Series

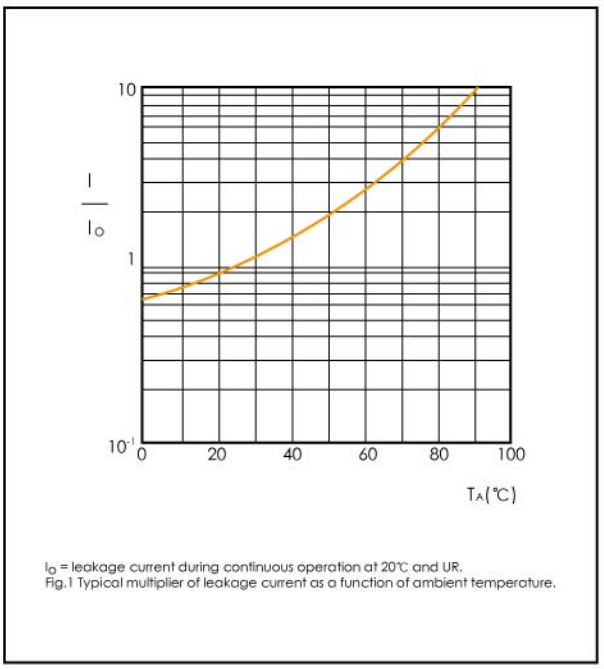
U_R (Surge Voltage) Code	Rated Capa-citance	Max ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size Φ D x L	P/N
(V)	(µF)	(Ω)	(mArms)	(mm)	-
6.3 (7.2) 0J	470	0.51	390	10×12.5	ECR0JDL471M□□100012
	680	0.41	480	10×16	ECR0JDL681M□□100016
	1000	0.28	650	10×20	ECR0JDL102M□□100020
	1500	0.19	910	12.5×25	ECR0JDL152M□□125025
	2200	0.13	1060	12.5×25	ECR0JDL222M□□125025
	3300	0.08	1270	16×25	ECR0JDL332M□□160025
	4700	0.06	1500	16×31.5	ECR0JDL472M□□160031
	6800	0.04	1760	18×35.5	ECR0JDL682M□□180035
	10000	0.03	1900	18×40	ECR0JDL103M□□180040
10 (13) 1A	47	4.23	110	5×11.5	ECR1ADL470M□□050011
	68	2.93	150	6.3×11.5	ECR1ADL680M□□063011
	100	1.99	180	6.3×11.5	ECR1ADL101M□□063011
	150	1.33	250	8×11.5	ECR1ADL151M□□080011
	220	0.90	310	8×11.5	ECR1ADL221M□□080011
	330	0.60	400	10×12.5	ECR1ADL331M□□100012
	470	0.48	530	10×16	ECR1ADL471M□□100016
	680	0.33	600	10×20	ECR1ADL681M□□100020
	1000	0.23	810	12.5×20	ECR1ADL102M□□125020
	1500	0.15	1020	12.5×25	ECR1ADL152M□□125025
	2200	0.10	1200	16×25	ECR1ADL222M□□160025
	3300	0.07	1420	16×31.5	ECR1ADL332M□□160031
	4700	0.05	1650	16×35.5	ECR1ADL472M□□160035
	6800	0.03	1890	18×35.5	ECR1ADL682M□□180035
16 (20) 1C	10	15.92	55	5×11.5	ECR1CDL100M□□050011
	15	10.62	70	5×11.5	ECR1CDL150M□□050011
	22	7.24	85	5×11.5	ECR1CDL220M□□050011
	33	4.83	100	5×11.5	ECR1CDL330M□□050011
	47	3.39	140	6.3×11.5	ECR1CDL470M□□063011
	68	2.34	160	6.3×11.5	ECR1CDL680M□□063011
	100	1.59	230	8×11.5	ECR1CDL101M□□080011
	150	1.06	280	8×11.5	ECR1CDL151M□□080011
	220	0.72	370	10×12.5	ECR1CDL221M□□100012
	330	0.56	420	10×16	ECR1CDL331M□□100016
	470	0.40	550	10×20	ECR1CDL471M□□100020
	680	0.27	730	12.5×20	ECR1CDL681M□□125020
	1000	0.19	910	12.5×25	ECR1CDL102M□□125025
	1500	0.12	1150	16×25	ECR1CDL152M□□160025
	2200	0.08	1300	16×25	ECR1CDL222M□□160025
	3300	0.06	1550	16×35.5	ECR1CDL332M□□160035
	4700	0.04	1820	16×35.5	ECR1CDL472M□□160035
25 (32) 1E	4.7	22.59	45	5×11.5	ECR1EDL4R7M□□050011
	6.8	15.61	55	5×11.5	ECR1EDL6R8M□□050011
	10	10.62	70	5×11.5	ECR1EDL100M□□050011
	15	7.08	85	5×11.5	ECR1EDL150M□□050011
	22	4.83	100	5×11.5	ECR1EDL220M□□050011
	33	3.22	140	6.3×11.5	ECR1EDL330M□□063011
	47	2.26	170	6.3×11.5	ECR1EDL470M□□063011
	68	1.56	230	8×11.5	ECR1EDL680M□□080011
	100	1.06	280	8×11.5	ECR1EDL101M□□080011
	150	0.71	370	10×12.5	ECR1EDL151M□□100012
	220	0.72	400	10×16	ECR1EDL221M□□100016
	330	0.48	490	10×20	ECR1EDL331M□□100020
	470	0.34	600	12.5×20	ECR1EDL471M□□125020
	680	0.23	810	12.5×25	ECR1EDL681M□□125025
	1000	0.16	1010	16×25	ECR1EDL102M□□160025
	1500	0.11	1270	16×31.5	ECR1EDL152M□□160031
	2200	0.07	1440	16×35.5	ECR1EDL222M□□160035
	3300	0.05	1720	18×40	ECR1EDL332M□□180040
35 (44) 1V	15	7.08	85	5×11.5	ECR1VDL150M□□050011
	22	4.83	110	6.3×11.5	ECR1VDL220M□□063011
	33	3.22	140	6.3×11.5	ECR1VDL330M□□063011
	47	2.26	190	8×11.5	ECR1VDL470M□□080011
	68	1.56	230	8×11.5	ECR1VDL680M□□080011
	100	1.06	300	10×12.5	ECR1VDL101M□□100012
	150	1.06	400	10×16	ECR1VDL151M□□100016
	220	0.72	440	10×20	ECR1VDL221M□□100020
	330	0.48	550	12.5×20	ECR1VDL331M□□125020
	470	0.34	680	12.5×25	ECR1VDL471M□□125025
	680	0.23	840	16×25	ECR1VDL681M□□160025
	1000	0.16	1100	16×25	ECR1VDL102M□□160025
	1500	0.11	1390	16×35.5	ECR1VDL152M□□160035
	2200	0.07	1580	16×35.5	ECR1VDL222M□□160035

U_R (Surge Voltage) Code	Rated Capa-citance	Max ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size Φ D x L	P/N
(V)	(µF)	(Ω)	(mArms)	(mm)	-
50 (63) 1H	0.1	1061.57	1.1	5×11.5	ECR1HDL0R1M□□050011
	0.15	707.71	1.6	5×11.5	ECR1HDLR15M□□050011
	0.22	482.53	2.3	5×11.5	ECR1HDLR22M□□050011
	0.33	321.69	3.5	5×11.5	ECR1HDLR33M□□050011
	0.47	225.87	5.0	5×11.5	ECR1HDLR47M□□050011
	0.68	156.11	7.3	5×11.5	ECR1HDLR68M□□050011
	1	106.16	10.7	5×11.5	ECR1HDL010M□□050011
	1.5	70.77	16	5×11.5	ECR1HDL1R5M□□050011
	2.2	48.25	23	5×11.5	ECR1HDL2R2M□□050011
	3.3	32.17	40	5×11.5	ECR1HDL3R3M□□050011
	4.7	22.59	45	5×11.5	ECR1HDL4R7M□□050011
	6.8	15.61	55	5×11.5	ECR1HDL6R8M□□050011
	10	10.62	70	5×11.5	ECR1HDL100M□□050011
	15	7.08	95	6.3×11.5	ECR1HDL150M□□063011
	22	4.83	110	6.3×11.5	ECR1HDL220M□□063011
	33	3.22	165	8×11.5	ECR1HDL330M□□080011
	47	2.26	190	8×11.5	ECR1HDL470M□□080011
	68	1.56	250	10×12.5	ECR1HDL680M□□100012
	100	1.33	320	10×16	ECR1HDL101M□□100016
	150	0.88	420	10×20	ECR1HDL151M□□100020
	220	0.60	490	12.5×20	ECR1HDL221M□□125020
	330	0.40	600	12.5×20	ECR1HDL331M□□125020
	470	0.28	760	16×25	ECR1HDL471M□□160025
	680	0.20	910	16×25	ECR1HDL681M□□160025
	1000	0.13	1140	16×31.5	ECR1HDL102M□□160031
	1500	0.09	1480	18×40	ECR1HDL152M□□180040
63 (79) 1J	6.8	13.66	59	5×11.5	ECR1JDL6R8M□□050011
	10	9.29	75	6.3×11.5	ECR1JDL100M□□063011
	15	6.19	100	6.3×11.5	ECR1JDL150M□□063011
	22	4.22	115	8×11.5	ECR1JDL220M□□080011
	33	2.81	170	8×11.5	ECR1JDL330M□□080011
	47	1.98	200	10×12.5	ECR1JDL470M□□100012
	68	1.56	270	10×16	ECR1JDL680M□□100016
	100	1.06	330	10×20	ECR1JDL101M□□100020
	150	0.71	450	12.5×20	ECR1JDL151M□□125020
	220	0.48	550	12.5×20	ECR1JDL221M□□125020
	330	0.32	710	12.5×25	ECR1JDL331M□□125025
	470	0.23	850	16×25	ECR1JDL471M□□160025
	680	0.16	1050	16×31.5	ECR1JDL681M□□160031
	1000	0.11	1330	18×35.5	ECR1JDL102M□□180035
100 (125) 2A	0.1	928.87	2.1	5×11.5	ECR2ADL0R1M□□050011
	0.15	619.25	3.2	5×11.5	ECR2ADLR15M□□050011
	0.22	422.22	4.7	5×11.5	ECR2ADLR22M□□050011
	0.33	281.48	7.0	5×11.5	ECR2ADLR33M□□050011
	0.47	197.63	10.1	5×11.5	ECR2ADLR47M□□050011
	0.68	136.60	14.5	5×11.5	ECR2ADLR68M□□050011
	1	92.89	19	5×11.5	ECR2ADL010M□□050011
	1.5	61.92	23	5×11.5	ECR2ADL1R5M□□050011
	2.2	42.22	28	5×11.5	ECR2ADL2R2M□□050011
	3.3	28.15	45	5×11.5	ECR2ADL3R3M□□050011
	4.7	19.76	50	5×11.5	ECR2ADL4R7M□□050011
	6.8	13.66	65	6.3×11.5	ECR2ADL6R8M□□063011
	10	9.29	90	8×11.5	ECR2ADL100M□□080011
	15	6.19	110	8×11.5	ECR2ADL150M□□080011
	22	4.22	136	10×12.5	ECR2ADL220M□□100012
	33	3.22	180	10×16	ECR2ADL330M□□100016
	47	2.26	220	10×20	ECR2ADL470M□□100020
	68	1.56	290	10×20	ECR2ADL680M□□100020
	100	1.06	370	12.5×20	ECR2ADL101M□□125020
	150	0.71	470	12.5×25	ECR2ADL151M□□125025
	220	0.48	580	16×25	ECR2ADL221M□□160025
	330	0.32	730	16×31.5	ECR2ADL331M□□160031
	470	0.23	910	16×35.5	ECR2ADL471M□□160035

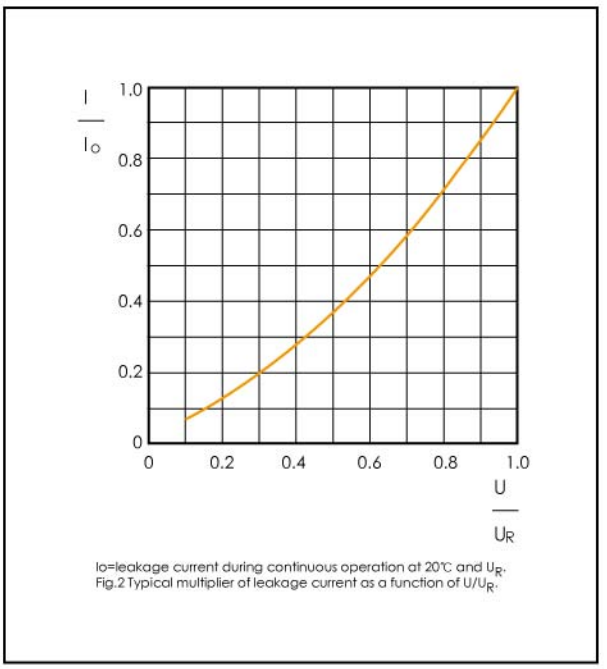
Customer products are available on request.

Assistance needed? Please contact JIANGHAI EUROPE GmbH +49 (0)2151 652088-72 or info@jianghai-europe.com

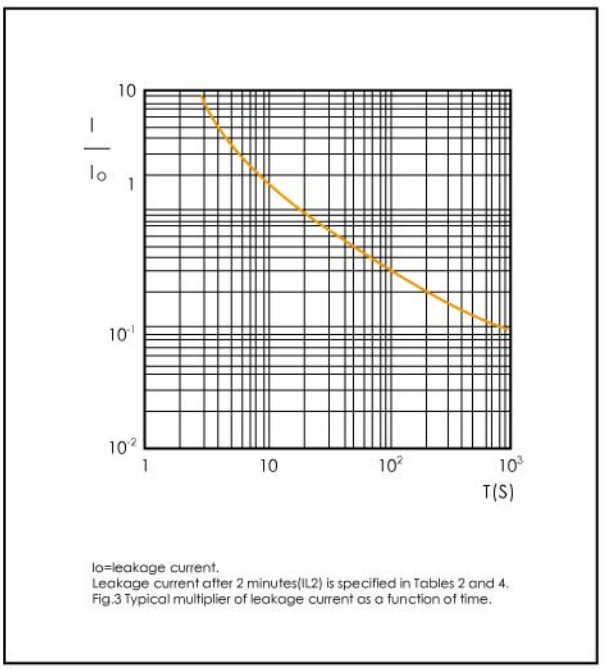
Typical Curves



I_O = leakage current during continuous operation at 20℃ and UR.
Fig.1 Typical multiplier of leakage current as a function of ambient temperature.



Io=leakage current during continuous operation at 20℃ and U_R.
Fig.2 Typical multiplier of leakage current as a function of U/U_R.



Io=leakage current.
Leakage current after 2 minutes(IL2) is specified in Tables 2 and 4.
Fig.3 Typical multiplier of leakage current as a function of time.

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