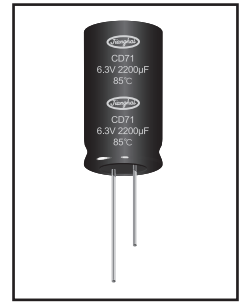
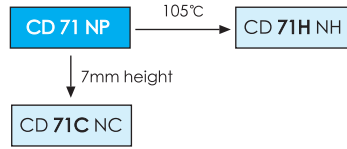


2000h at 85°C

- Load life of 2000 hours at 85°C
- Bi-polar standard
- Ideal for inconsistent polarity circuits



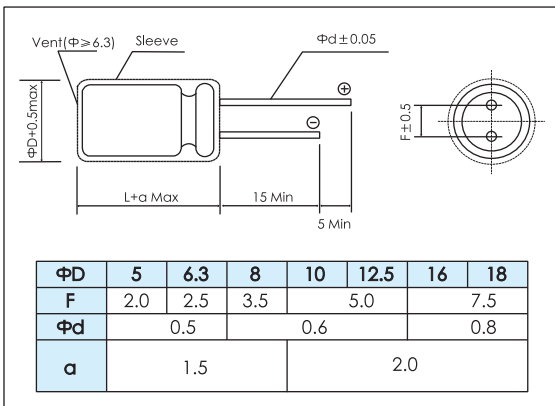
Items	Characteristics																														
Operating Temperature Range (°C)	-40 ~ +85																														
Capacitance Tolerance (20°C, 120Hz)	± 20%																														
Leakage Current (µA)	After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0.03CV or 3, 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> <th>160</th> </tr> </thead> <tbody> <tr> <td>Tan δ (max)</td> <td>0.24</td> <td>0.24</td> <td>0.20</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.15</td> </tr> </tbody> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	63	100	160	Tan δ (max)	0.24	0.24	0.20	0.20	0.16	0.14	0.12	0.10	0.15										
	Rated Voltage (V)	6.3	10	16	25	35	50	63	100	160																					
Tan δ (max)	0.24	0.24	0.20	0.20	0.16	0.14	0.12	0.10	0.15																						
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> <th>160</th> </tr> </thead> <tbody> <tr> <td>Z_{-25°C} / Z_{+20°C}</td> <td>4</td> <td>3</td> <td colspan="6">2</td> <td>4</td> </tr> <tr> <td>Z_{-40°C} / Z_{+20°C}</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td colspan="4">3</td> <td>-</td> </tr> </tbody> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	63	100	160	Z _{-25°C} / Z _{+20°C}	4	3	2						4	Z _{-40°C} / Z _{+20°C}	10	8	6	4	3				-
Rated Voltage (V)	6.3	10	16	25	35	50	63	100	160																						
Z _{-25°C} / Z _{+20°C}	4	3	2						4																						
Z _{-40°C} / Z _{+20°C}	10	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 ± 20% of initial value	Within ± 20% of initial value	Within ± 20% 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 85°C	U _R 1.2 x I _R 40°C	U _R I _R 85°C	U _E I _R = 0 85°C	U _E = 0 I _R = 0 85°C After test: U _E to be applied for 30min >24h before measurement

Note: The life test excluding shelf life should be conducted with the polarity inverted every 250hrs.

Dimensions

mm



Frequency Coefficient

Rated Voltage(V)	Frequency				
	50-60Hz	120Hz	1kHz	10kHz	100kHz
6.3 ~ 16	0.80	1.0	1.1	1.2	1.2
25 ~ 35	0.80	1.0	1.5	1.7	1.7
50 ~ 160	0.80	1.0	1.6	1.9	1.9

Temperature Coefficient

Temperature(°C)	+70	+85
Coefficient	1.35	1

CD 71 NP SERIES



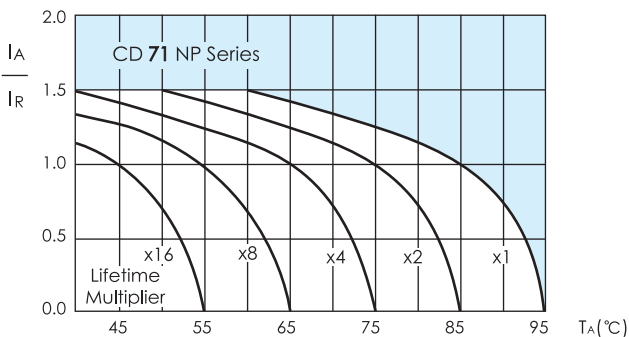
Ratings for CD 71 NP Series

U_R (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size ΦD x L	P/N
(V)	(μF)	(Ω)	(mA _{rms})	(mm)	-
6.3 (7.2) 0J	33	9.65	58	5×11.5	ECR0JNP330M□□050011
	47	6.78	69	5×11.5	ECR0JNP470M□□050011
	100	3.18	115	6.3×11.5	ECR0JNP101M□□063011
	220	1.45	202	8×11.5	ECR0JNP221M□□080011
	330	0.97	247	8×11.5	ECR0JNP331M□□080011
	470	0.68	350	10×12.5	ECR0JNP471M□□100012
	1000	0.32	611	10×20	ECR0JNP102M□□100020
	2200	0.16	1090	12.5×25	ECR0JNP222M□□125025
	3300	0.11	1490	16×25	ECR0JNP332M□□160025
4700	0.08	1880	16×31.5	ECR0JNP472M□□160031	
10 (13) 1A	22	14	52	5×11.5	ECR1ANP220M□□050011
	33	9.65	63	5×11.5	ECR1ANP330M□□050011
	47	6.78	75	5×11.5	ECR1ANP470M□□050011
	100	3.18	126	6.3×11.5	ECR1ANP101M□□063011
	220	1.45	221	8×11.5	ECR1ANP221M□□080011
	330	0.97	322	10×12.5	ECR1ANP331M□□100012
	470	0.68	420	10×16	ECR1ANP471M□□100016
	1000	0.32	767	12.5×20	ECR1ANP102M□□125020
	2200	0.16	1380	16×25	ECR1ANP222M□□160025
3300	0.11	1760	16×31.5	ECR1ANP332M□□160031	
4700	0.08	2280	18×35.5	ECR1ANP472M□□180035	
16 (20) 1C	10	26	39	5×11.5	ECR1CNP100M□□050011
	22	12	58	5×11.5	ECR1CNP220M□□050011
	33	8.04	71	5×11.5	ECR1CNP330M□□050011
	47	5.65	97	6.3×11.5	ECR1CNP470M□□063011
	100	2.65	167	8×11.5	ECR1CNP101M□□080011
	220	1.21	294	10×12.5	ECR1CNP221M□□100012
	330	0.80	394	10×16	ECR1CNP331M□□100016
	470	0.56	513	10×20	ECR1CNP471M□□100020
	1000	0.27	935	12.5×25	ECR1CNP102M□□125025
25 (32) 1E	2200	0.13	1660	16×31.5	ECR1CNP222M□□160031
	4.7	56	28	5×11.5	ECR1ENP47M□□050011
	10	26	40	5×11.5	ECR1ENP100M□□050011
	22	12	60	5×11.5	ECR1ENP220M□□050011
	33	8.04	84	6.3×11.5	ECR1ENP330M□□063011
	47	5.65	100	6.3×11.5	ECR1ENP470M□□063011
	100	2.65	204	10×12.5	ECR1ENP101M□□100012
	220	1.21	332	10×16	ECR1ENP221M□□100016
	330	0.80	444	10×20	ECR1ENP331M□□100020
35 (44) 1V	470	0.56	607	12.5×20	ECR1ENP471M□□125020
	1000	0.27	1120	16×25	ECR1ENP102M□□160025
	4.7	45	28	5×11.5	ECR1VNP47M□□050011
	10	21	42	5×11.5	ECR1VNP100M□□050011
	22	9.65	71	6.3×11.5	ECR1VNP220M□□063011
	33	6.43	87	6.3×11.5	ECR1VNP330M□□063011
	47	4.52	122	8×11.5	ECR1VNP470M□□080011
	100	2.12	212	10×12.5	ECR1VNP101M□□100012
	220	0.97	375	10×20	ECR1VNP221M□□100020
	330	0.64	526	12.5×20	ECR1VNP331M□□125020
	470	0.45	685	12.5×25	ECR1VNP471M□□125025
	1000	0.21	1270	16×31.5	ECR1VNP102M□□160031

U_R (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size ΦD x L	P/N
(V)	(μF)	(Ω)	(mA _{rms})	(mm)	-
50 (63) 1H	0.1	1857	4	5×11.5	ECR1HNP0R1M□□050011
	0.22	844	7	5×11.5	ECR1HNP22M□□050011
	0.33	562	8	5×11.5	ECR1HNP33M□□050011
	0.47	395	10	5×11.5	ECR1HNP47M□□050011
	1	185	14	5×11.5	ECR1HNP010M□□050011
	2.2	84	21	5×11.5	ECR1HNP2R2M□□050011
	3.3	56	26	5×11.5	ECR1HNP3R3M□□050011
	4.7	39	31	5×11.5	ECR1HNP4R7M□□050011
	10	18	45	5×11.5	ECR1HNP100M□□050011
	22	8	77	6.3×11.5	ECR1HNP220M□□063011
	33	5.6	111	8×11.5	ECR1HNP330M□□080011
	47	3.9	157	10×12.5	ECR1HNP470M□□100012
	100	1.8	273	10×20	ECR1HNP101M□□100020
	220	0.84	506	12.5×25	ECR1HNP221M□□125025
	330	0.56	620	12.5×25	ECR1HNP331M□□125025
63 (79) 1J	470	0.40	861	16×25	ECR1HNP471M□□160025
	2.2	72	23	5×11.5	ECR1JNP2R2M□□050011
	3.3	48	28	5×11.5	ECR1JNP3R3M□□050011
	4.7	33	34	5×11.5	ECR1JNP4R7M□□050011
	10	15	57	6.3×11.5	ECR1JNP100M□□063011
	22	7	89	8×11.5	ECR1JNP220M□□080011
	33	4.8	144	10×12.5	ECR1JNP330M□□100012
	47	3.3	188	10×16	ECR1JNP470M□□100016
	100	1.5	343	12.5×20	ECR1JNP101M□□125020
100 (125) 2A	220	0.72	645	16×25	ECR1JNP221M□□160025
	0.1	1326	5	5×11.5	ECR2ANP0R1M□□050011
	0.22	603	8	5×11.5	ECR2ANP22M□□050011
	0.33	402	9	5×11.5	ECR2ANP33M□□050011
	0.47	282	11	5×11.5	ECR2ANP47M□□050011
	1	132	16	5×11.5	ECR2ANP010M□□050011
	2.2	60	24	5×11.5	ECR2ANP2R2M□□050011
	3.3	40	34	6.3×11.5	ECR2ANP3R3M□□063011
	4.7	28	41	6.3×11.5	ECR2ANP4R7M□□063011
	10	13	70	8×11.5	ECR2ANP100M□□080011
	22	6	136	10×12.5	ECR2ANP220M□□100012
	33	4	181	10×16	ECR2ANP330M□□100016
	47	2.82	248	12.5×20	ECR2ANP470M□□125020
	100	1.33	458	16×25	ECR2ANP101M□□160025
	220	0.60	837	18×35.5	ECR2ANP221M□□180035
160 (200) 2C	3.3	60	49	10×16	ECR2CNP3R3M□□100016
	4.7	42	59	10×16	ECR2CNP4R7M□□100016
	10	19	109	12.5×20	ECR2CNP100M□□125020
	22	9	177	12.5×25	ECR2CNP220M□□125025
	33	6	240	16×25	ECR2CNP330M□□160025
	47	4.23	329	16×35.5	ECR2CNP470M□□160035
100	1.99	425	18×35.5	ECR2CNP101M□□180035	

Customer products are available on request.

Lifetime Diagram



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