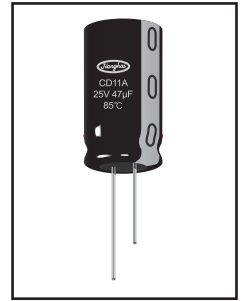


2000h at 85°C

- Load life of 2000 hours at 85°C
- True audio reproduction by the suppression of electrical noise due to external vibration

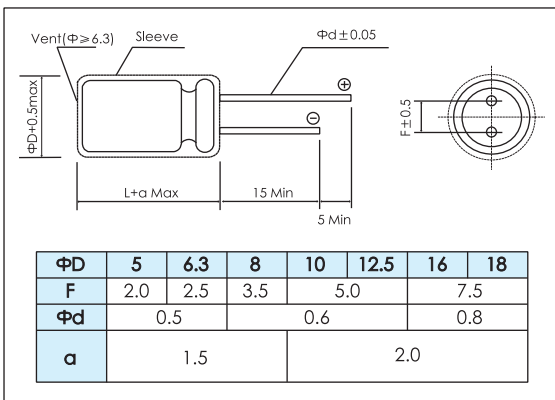


Items	Characteristics																		
Operating Temperature Range (°C)	-40 ~ +85																		
Voltage Range (V)	6.3 ~ 100																		
Capacitance Tolerance (20°C, 120Hz)	± 20%																		
Leakage Current (µA)	After 2 minutes at 20°C application of rated voltage, leakage current is not more than 0.001CV or 4, 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>0.3</td> <td>0.25</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> </tr> </tbody> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	63	100	Tan δ (max)	0.3	0.25	0.19	0.16	0.14	0.12	0.10	0.10
	Rated Voltage (V)	6.3	10	16	25	35	50	63	100										
Tan δ (max)	0.3	0.25	0.19	0.16	0.14	0.12	0.10	0.10											
When nominal capacitance is over 1000µF tan δ shall be added 0.02 to the listed value with increase of every 1000µF																			

	Useful Life	Load Life	Endurance Test	Shelf Life
Lifetime	3000h	2000h	2500h	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 I_R 85°C	U_R $I_R = 0$ 85°C	$U_R = 0$ $I_R = 0$ 85°C After test: U_R to be applied for 30min >24h before measurement

Dimensions

mm



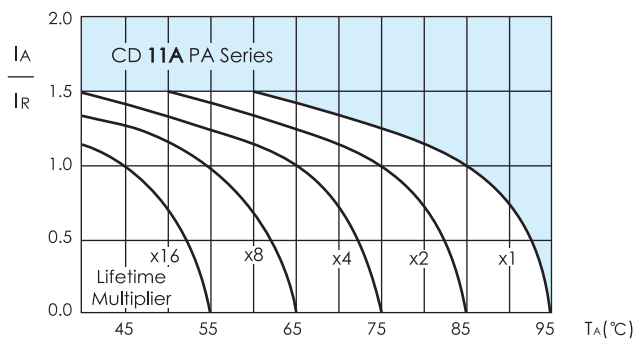
Frequency Coefficient

Rated Voltage (V)	Frequency CV (µFV)	Frequency				
		50~60Hz	120Hz	1kHz	10kHz	100kHz
6.3 ~ 16	ALL CV value	0.80	1.00	1.10	1.20	1.20
	≤ 1000	0.80	1.00	1.50	1.70	1.70
25 ~ 35	> 1000	0.80	1.00	1.20	1.30	1.30
	≤ 1000	0.80	1.00	1.60	1.90	1.90
50 ~ 100	> 1000	0.80	1.00	1.20	1.30	1.30

Temperature Coefficient

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

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

Ratings for CD 11A PA Series

U _r (Surge Voltage) Code	Rated Capa- cance	Max ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size ΦD x L	P/N
(V)	(μF)	(Ω)	(mArms)	(mm)	-
6.3 (7.2) 0J	100	3.98	85	5 × 11.5	ECR0JPA101M□□050011
	220	1.81	150	6.3 × 11.5	ECR0JPA221M□□063011
	330	1.21	180	6.3 × 11.5	ECR0JPA331M□□063011
	470	0.85	260	8 × 11.5	ECR0JPA471M□□080011
	1000	0.40	450	10 × 12.5	ECR0JPA102M□□100012
	2200	0.19	890	12.5 × 20	ECR0JPA222M□□125020
	3300	0.14	1050	12.5 × 20	ECR0JPA332M□□125020
	4700	0.10	1550	16 × 25	ECR0JPA472M□□160025
	6800	0.08	1750	16 × 25	ECR0JPA682M□□160025
	10000	0.06	2150	16 × 31.5	ECR0JPA103M□□160031
	15000	0.05	2700	18 × 35.5	ECR0JPA153M□□180035
10 (13) 1A	33	10.05	55	5 × 11.5	ECR1APA330M□□050011
	47	7.06	65	5 × 11.5	ECR1APA470M□□050011
	100	3.32	95	5 × 11.5	ECR1APA101M□□050011
	220	1.51	165	6.3 × 11.5	ECR1APA221M□□063011
	330	1.01	240	8 × 11.5	ECR1APA331M□□080011
	470	0.71	280	8 × 11.5	ECR1APA471M□□080011
	1000	0.33	540	10 × 16	ECR1APA102M□□100016
	2200	0.16	970	12.5 × 20	ECR1APA222M□□125020
	3300	0.12	1250	12.5 × 25	ECR1APA332M□□125025
	4700	0.09	1650	16 × 25	ECR1APA472M□□160025
	6800	0.07	2050	16 × 31.5	ECR1APA682M□□160031
10000	0.06	2550	18 × 35.5	ECR1APA103M□□180035	
16 (20) 1C	22	11.46	50	5 × 11.5	ECR1CPA220M□□050011
	33	7.64	60	5 × 11.5	ECR1CPA330M□□050011
	47	5.36	75	5 × 11.5	ECR1CPA470M□□050011
	100	2.52	120	6.3 × 11.5	ECR1CPA101M□□063011
	220	1.15	220	8 × 11.5	ECR1CPA221M□□080011
	330	0.76	270	8 × 11.5	ECR1CPA331M□□080011
	470	0.54	390	10 × 12.5	ECR1CPA471M□□100012
	1000	0.25	680	10 × 20	ECR1CPA102M□□100020
	2200	0.13	1200	12.5 × 25	ECR1CPA222M□□125025
	3300	0.10	1600	16 × 25	ECR1CPA332M□□160025
	4700	0.07	2050	16 × 31.5	ECR1CPA472M□□160031
6800	0.06	2550	18 × 35.5	ECR1CPA682M□□180035	
25 (32) 1E	22	9.65	55	5 × 11.5	ECR1EPA220M□□050011
	33	6.43	70	5 × 11.5	ECR1EPA330M□□050011
	47	4.52	80	5 × 11.5	ECR1EPA470M□□050011
	100	2.12	140	6.3 × 11.5	ECR1EPA101M□□063011
	220	0.97	240	8 × 11.5	ECR1EPA221M□□080011
	330	0.64	350	10 × 12.5	ECR1EPA331M□□100012
	470	0.45	460	10 × 16	ECR1EPA471M□□100016
	1000	0.21	850	12.5 × 20	ECR1EPA102M□□125020
	2200	0.11	1500	16 × 25	ECR1EPA222M□□160025
	3300	0.08	1900	16 × 31.5	ECR1EPA332M□□160031
	4700	0.06	2450	18 × 35.5	ECR1EPA472M□□180035
35 (44) 1V	4.7	39.53	25	5 × 11.5	ECR1VPA47M□□050011
	10	18.58	40	5 × 11.5	ECR1VPA100M□□050011
	22	8.44	60	5 × 11.5	ECR1VPA220M□□050011
	33	5.63	75	5 × 11.5	ECR1VPA330M□□050011

U _r (Surge Voltage) Code	Rated Capa- cance	Max ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size ΦD x L	P/N
(V)	(μF)	(Ω)	(mArms)	(mm)	-
35 (44) 1V	47	3.95	100	6.3 × 11.5	ECR1VPA470M□□063011
	100	1.86	170	8 × 11.5	ECR1VPA101M□□080011
	220	0.84	310	10 × 12.5	ECR1VPA221M□□100012
	330	0.56	420	10 × 16	ECR1VPA331M□□100016
	470	0.40	540	10 × 20	ECR1VPA471M□□100020
	1000	0.19	990	12.5 × 20	ECR1VPA102M□□125020
	2200	0.10	1750	16 × 31.5	ECR1VPA222M□□160031
	3300	0.07	2250	18 × 35.5	ECR1VPA332M□□180035
	50 (63) 1H	0.47	338.80	9	5 × 11.5
1		159.24	14	5 × 11.5	ECR1HPA10M□□050011
2.2		72.38	20	5 × 11.5	ECR1HPA2R2M□□050011
3.3		48.25	25	5 × 11.5	ECR1HPA3R3M□□050011
4.7		33.88	30	5 × 11.5	ECR1HPA4R7M□□050011
10		15.92	40	5 × 11.5	ECR1HPA100M□□050011
22		7.24	65	5 × 11.5	ECR1HPA220M□□050011
33		4.83	90	6.3 × 11.5	ECR1HPA330M□□063011
47		3.39	110	6.3 × 11.5	ECR1HPA470M□□063011
100		1.59	190	8 × 11.5	ECR1HPA101M□□080011
220		0.72	370	10 × 16	ECR1HPA221M□□100016
330		0.48	490	10 × 20	ECR1HPA331M□□100020
470		0.34	670	12.5 × 20	ECR1HPA471M□□125020
1000		0.16	1250	16 × 25	ECR1HPA102M□□160025
2200		0.08	2100	18 × 35.5	ECR1HPA222M□□180035
63 (79) 1J	4.7	28.23	30	5 × 11.5	ECR1JPA47M□□050011
	10	13.27	45	5 × 11.5	ECR1JPA100M□□050011
	22	6.03	80	6.3 × 11.5	ECR1JPA220M□□063011
	33	4.02	100	6.3 × 11.5	ECR1JPA330M□□063011
	47	2.82	140	8 × 11.5	ECR1JPA470M□□080011
	100	1.33	250	10 × 12.5	ECR1JPA101M□□100012
	220	0.60	440	10 × 20	ECR1JPA221M□□100020
	330	0.40	620	12.5 × 20	ECR1JPA331M□□125020
	470	0.28	810	12.5 × 25	ECR1JPA471M□□125025
	1000	0.13	1500	16 × 31.5	ECR1JPA102M□□160031
	100 (125) 2A	0.47	282.33	10	5 × 11.5
1		132.70	15	5 × 11.5	ECR2APA10M□□050011
2.2		60.32	20	5 × 11.5	ECR2APA2R2M□□050011
3.3		40.21	25	5 × 11.5	ECR2APA3R3M□□050011
4.7		28.23	30	5 × 11.5	ECR2APA4R7M□□050011
10		13.27	55	6.3 × 11.5	ECR2APA100M□□063011
22		6.03	95	8 × 11.5	ECR2APA220M□□080011
33		4.02	140	10 × 12.5	ECR2APA330M□□100012
47		2.82	180	10 × 16	ECR2APA470M□□100016
100		1.33	340	12.5 × 20	ECR2APA101M□□125020
220		0.60	640	16 × 25	ECR2APA221M□□160025
330		0.40	780	16 × 25	ECR2APA331M□□160025
470		0.28	1000	16 × 31.5	ECR2APA471M□□160031

Customer products are available on request.