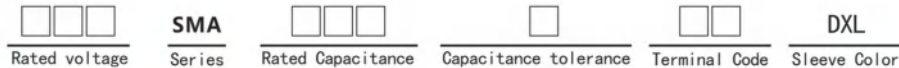


2000h at 85°C

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



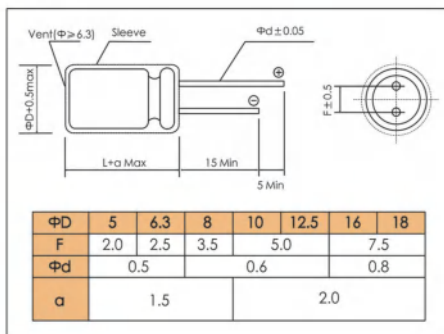
Items	Characteristics																		
Operating Temperature Range (°C)	-40 ~ +85																		
Voltage Range (V)	6.3 ~ 100																		
Capacitance Tolerance (20°C, 120Hz)	± 20%																		
Leakage Current (µA)	After 2 minutes at 20°C application of rated voltage, leakage current is 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																			

MINIATURE

	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 <sub>R</sub> I <sub>R</sub> 85°C	U <sub>R</sub> I <sub>R</sub> 85°C	U <sub>R</sub> I <sub>R</sub> = 0 85°C	U <sub>R</sub> = 0 I <sub>R</sub> = 0 85°C  After test: U <sub>R</sub> to be applied for 30min >24h before measurement

**Dimensions**

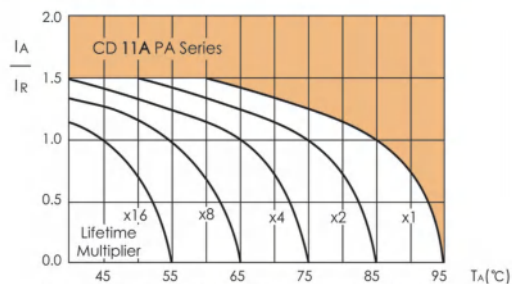
mm



**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

**Lifetime Diagram**

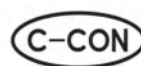


I<sub>A</sub> = actual ripple current of 120Hz, I<sub>R</sub> = rated ripple current at 120Hz, 85°C  
Multiplier of Useful Life as a function of ambient temperature and ripple current load

**Temperature Coefficient**

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

# SMA CD11A



MINIATURE ALUMINUM  
ELECTROLYTIC CAPACITORS

## Ratings for CD 11A Series

MINIATURE

U <sub>R</sub> (Surge Voltage) Code	Rated Capa- citan- ce	Max ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size ΦD x L
(V)	(μF)	(Ω)	(mA <sub>rms</sub> )	(mm)
6.3 (7.2) 0J	100	3.98	85	5×11.5
	220	1.81	150	6.3×11.5
	330	1.21	180	6.3×11.5
	470	0.85	260	8×11.5
	1000	0.40	450	10×12.5
	2200	0.19	890	12.5×20
	3300	0.14	1050	12.5×20
	4700	0.10	1550	16×25
	6800	0.08	1750	16×25
	10000	0.06	2150	16×31.5
10 (13) 1A	15000	0.05	2700	18×35.5
	33	10.05	55	5×11.5
	47	7.06	65	5×11.5
	100	3.32	95	5×11.5
	220	1.51	165	6.3×11.5
	330	1.01	240	8×11.5
	470	0.71	280	8×11.5
	1000	0.33	540	10×16
	2200	0.16	970	12.5×20
	3300	0.12	1250	12.5×25
16 (20) 1C	4700	0.09	1650	16×25
	6800	0.07	2050	16×31.5
	10000	0.06	2550	18×35.5
	22	11.46	50	5×11.5
	33	7.64	60	5×11.5
	47	5.36	75	5×11.5
	100	2.52	120	6.3×11.5
	220	1.15	220	8×11.5
	330	0.76	270	8×11.5
	470	0.54	390	10×12.5
25 (32) 1E	1000	0.25	680	10×20
	2200	0.13	1200	12.5×25
	3300	0.10	1600	16×25
	4700	0.07	2050	16×31.5
	6800	0.06	2550	18×35.5
	22	9.65	55	5×11.5
	33	6.43	70	5×11.5
	47	4.52	80	5×11.5
	100	2.12	140	6.3×11.5
	220	0.97	240	8×11.5
35 (44) 1V	330	0.64	350	10×12.5
	470	0.45	460	10×16
	1000	0.21	850	12.5×20
	2200	0.11	1500	16×25
	3300	0.08	1900	16×31.5
	4700	0.06	2450	18×35.5
	4.7	39.53	25	5×11.5
	10	18.58	40	5×11.5
	22	8.44	60	5×11.5
	33	5.63	75	5×11.5
35 (44) 1V	47	3.95	100	6.3×11.5
	100	1.86	170	8×11.5
	220	0.84	310	10×12.5
	330	0.56	420	10×16
	470	0.40	540	10×20
	1000	0.19	990	12.5×20
	2200	0.10	1750	16×31.5
	3300	0.07	2250	18×35.5
	0.47	338.80	9	5×11.5
	1	159.24	14	5×11.5
50 (63) 1H	2.2	72.38	20	5×11.5
	3.3	48.25	25	5×11.5
	4.7	33.88	30	5×11.5
	10	15.92	40	5×11.5
	22	7.24	65	5×11.5
	33	4.83	90	6.3×11.5
	47	3.39	110	6.3×11.5
	100	1.59	190	8×11.5
	220	0.72	370	10×16
	330	0.48	490	10×20
63 (79) 1J	470	0.34	670	12.5×20
	1000	0.16	1250	16×25
	2200	0.08	2100	18×35.5
	4.7	28.23	30	5×11.5
	10	13.27	45	5×11.5
	22	6.03	80	6.3×11.5
	33	4.02	100	6.3×11.5
	47	2.82	140	8×11.5
	100	1.33	250	10×12.5
	220	0.60	440	10×20
100 (125) 2A	330	0.40	620	12.5×20
	470	0.28	810	12.5×25
	1000	0.13	1500	16×31.5
	0.47	282.33	10	5×11.5
	1	132.70	15	5×11.5
	2.2	60.32	20	5×11.5
	3.3	40.21	25	5×11.5
	4.7	28.23	30	5×11.5
	10	13.27	55	6.3×11.5
	22	6.03	95	8×11.5
100 (125) 2A	33	4.02	140	10×12.5
	47	2.82	180	10×16
	100	1.33	340	12.5×20
	220	0.60	640	16×25
	330	0.40	780	16×25
	470	0.28	1000	16×31.5