

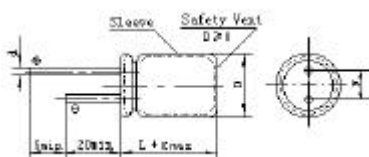
CDZ11 Series

- High frequency and lower impedance, high CV value, wide operating temperature range, suited for in electronic circuit in switching power supplies etc
- Load life of 1000 /2000h hours at 105°C

■ Specifications

Item	Characteristics																																			
Operating Temperature Range	-55°C~+105°C																																			
Rated Voltage Range	6.3V~80V																																			
Nominal Capacitance Range	0.47μF ~15000μF																																			
Capacitance Tolerance	M(±20%) (20°C 120Hz)																																			
Leakage Current	$I \leq 0.03C_R U_R$ or $4(\text{£ } \text{g})$, whichever is greater. C _R : Nominal capacitance(£ g) U _R : Rated voltage(V) (20°C, after 1 minutes)																																			
Dissipation Factor (Max)	<table border="1"> <thead> <tr> <th>U_R(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>80</th> </tr> </thead> <tbody> <tr> <td>tan δ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> </tr> </tbody> </table> <p>0.02 is added to every 1000μF increase over 1000μF (20°C 120Hz)</p>	U _R (V)	6.3	10	16	25	35	50	63	80	tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08																	
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Low Temperature Stability (Impedance Ratio)	<table border="1"> <thead> <tr> <th>U_R(V)</th> <th>6.3~10</th> <th>16~35</th> <th>50~80</th> </tr> </thead> <tbody> <tr> <td>Z(-55°C)/Z(+20°C)</td> <td>4</td> <td>3</td> <td>2</td> </tr> </tbody> </table> <p>(120Hz)</p>	U _R (V)	6.3~10	16~35	50~80	Z(-55°C)/Z(+20°C)	4	3	2																											
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Z(-55°C)/Z(+20°C)	4	3	2																																	
Load Life	<p>After 1000/2000 hours' (≤ 08:1000 hours') application of rated voltage with rated ripple current at 105°C, the capacitor shall meet the following requirement:</p> <table border="1"> <tbody> <tr> <td>Capacitance change</td> <td>Within±20% of the initial value.</td> </tr> <tr> <td>Dissipation factor</td> <td>Not more than 200% of the initial specified value.</td> </tr> <tr> <td>Leakage current</td> <td>Not more than the initial specified value.</td> </tr> </tbody> </table>	Capacitance change	Within±20% of the initial value.	Dissipation factor	Not more than 200% of the initial specified value.	Leakage current	Not more than the initial specified value.																													
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Shelf Life	After storage for 1000hours at +105°C, the capacitors shall meet the requirement of load life above.																																			
Rated Ripple Current & Frequency Multipliers	<table border="1"> <thead> <tr> <th>Cap. \ Freq.</th> <th>50Hz</th> <th>120Hz</th> <th>500Hz</th> <th>1kHz</th> <th>10kHz</th> <th>100kHz</th> </tr> </thead> <tbody> <tr> <td>0.47 μF ~ 27 μF</td> <td>0.40</td> <td>0.55</td> <td>0.65</td> <td>0.80</td> <td>0.90</td> <td>1.00</td> </tr> <tr> <td>33 μF ~ 330 μF</td> <td>0.60</td> <td>0.70</td> <td>0.80</td> <td>0.90</td> <td>0.95</td> <td>1.00</td> </tr> <tr> <td>390 μF ~ 1000 μF</td> <td>0.65</td> <td>0.80</td> <td>0.85</td> <td>0.98</td> <td>1.00</td> <td>1.00</td> </tr> <tr> <td>1200 μF ~</td> <td>0.80</td> <td>0.90</td> <td>0.95</td> <td>0.98</td> <td>1.00</td> <td>1.00</td> </tr> </tbody> </table>	Cap. \ Freq.	50Hz	120Hz	500Hz	1kHz	10kHz	100kHz	0.47 μF ~ 27 μF	0.40	0.55	0.65	0.80	0.90	1.00	33 μF ~ 330 μF	0.60	0.70	0.80	0.90	0.95	1.00	390 μF ~ 1000 μF	0.65	0.80	0.85	0.98	1.00	1.00	1200 μF ~	0.80	0.90	0.95	0.98	1.00	1.00
Cap. \ Freq.	50Hz	120Hz	500Hz	1kHz	10kHz	100kHz																														
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■ Dimensions



D	±0.5			±1.0														
	5	6.3	8	10				12.5				16		18				
L	11	11	11.5	12.5	16	20	25	31.5	20	25	31.5	35.5	40	31.5	35.5	40	35.5	40
F ± 0.5	2	2.5	3.5	5										7.5				
d ± 0.1	0.5			0.6										0.8				
α	1.5						2.0											

mm

CDZ11 Series

■ Nominal capacitance, rated voltage, impedance, rated ripple current and case size table

U _R (V) Item C _R (μF)	6.3			10			16			25		
	D×L mm	Z	I~	D×L mm	Z	I~	D×L mm	Z	I~	D×L mm	Z	I~
33										5×11	1.5	156
39										5×11	1.3	173
47							5×11	1.2	155	6.3×11	1.2	212
56							5×11	1.0	176	6.3×11	1.0	237
68				5×11	1.6	152	6.3×11	0.9	221	6.3×11	0.83	261
82				5×11	1.4	176	6.3×11	0.78	243	6.3×11	0.75	288
100	5×11	1.2	152	6.3×11	1.2	211	6.3×11	0.58	267	6.3×15	0.58	372
120	5×11	1.1	176	6.3×11	1.0	236	6.3×11	0.55	292	6.3×15	0.50	409
150	6.3×11	1.0	227	6.3×11	0.82	268	6.3×15	0.52	376	8×11.5	0.43	461
180	6.3×11	0.9	253	6.3×11	0.68	291	6.3×15	0.50	408	10×12.5	0.40	553
220	6.3×11	0.87	287	6.3×15	0.58	372	8×11.5	0.47	462	10×12.5	0.39	628
270	6.3×15	0.70	374	6.3×15	0.52	405	10×12.5	0.42	553	10×16	0.30	753
330	6.3×15	0.58	400	8×11.5	0.47	463	10×12.5	0.39	597	10×16	0.23	798
390	8×11.5	0.48	448	10×12.5	0.43	552	10×16	0.31	731	10×20	0.20	986
470	10×12.5	0.39	551	10×12.5	0.39	596	10×16	0.23	772	10×20	0.18	1021
560	10×12.5	0.35	597	10×16	0.33	733	10×20	0.21	954	10×25	0.16	1223
680	10×16	0.30	731	10×16	0.28	798	10×20	0.18	1021	10×31.5	0.13	1424
820	10×16	0.27	796	10×20	0.23	987	10×25	0.15	1225	12.5×20	0.11	1433
1000	10×20	0.23	953	10×20	0.18	1061	10×31.5	0.12	1411	12.5×25	0.090	1661
1200	10×20	0.20	1022	10×25	0.16	1282	12.5×20	0.10	1432	12.5×25	0.080	1765
1500	10×25	0.16	1221	10×31.5	0.12	1443	12.5×25	0.082	1665	12.5×31.5	0.072	1982
1800	10×31.5	0.12	1375	12.5×20	0.10	1472	12.5×31.5	0.075	1881	12.5×35.5	0.062	2080
2200	10×31.5	0.095	1472	12.5×25	0.09	1715	12.5×31.5	0.068	2015	12.5×40	0.056	2361
2700	12.5×25	0.092	1592	12.5×30	0.08	1941	12.5×35.5	0.062	2223	16×31.5	0.050	2471
3300	12.5×25	0.090	1711	12.5×35	0.068	2184	12.5×40	0.056	2412	16×35.5	0.045	2662
3900	12.5×31.5	0.080	1914	12.5×40	0.063	2362	16×31.5	0.050	2471	16×40	0.040	2821
4700	12.5×35.5	0.061	2102	16×31.5	0.056	2422	16×35.5	0.045	2585	18×40	0.036	2965
5600	12.5×40	0.059	2273	16×35.5	0.05	2613	16×40	0.041	2822			
6800	16×31.5	0.056	2376	16×35.5	0.045	2682	18×35.5	0.036	2903			
8200	16×35.5	0.050	2551	16×40	0.041	2821	18×40	0.035	3041			
10000	16×40	0.045	2753	18×40	0.036	3045						
12000	18×35.5	0.040	2825									
15000	18×40	0.036	2963									

Rated ripple current(mA rms)
(105°C, 100kHz)

Impedance (Ω) (20°C, 100kHz)

CDZ11 Series

■ Nominal capacitance, rated voltage, impedance, rated ripple current and case size table

U _R (V) Item C _R (μF)	35			50			63			80		
	D×L mm	Z	I~	D×L mm	Z	I~	D×L mm	Z	I~	D×L mm	Z	I~
0.47				5×11	7.0	23						
0.68				5×11	6.0	29						
1				5×11	4.9	37						
1.5				5×11	4.6	47						
2.2				5×11	4.2	57						
3.3				5×11	3.9	68						
4.7				5×11	3.6	82				5×11	8.5	92
6.8				5×11	3.2	93				5×11	5.5	111
10				5×11	2.7	116	5×11	3.6	136	6.3×11	3.8	152
12				5×11	2.5	127	5×11	3.2	147	6.3×11	3.4	164
15				5×11	2.3	148	6.3×11	2.8	185	6.3×11	3.0	189
18				5×11	2.1	157	6.3×11	2.4	199	6.3×11	2.6	205
22	5×11	1.5	161	6.3×11	1.9	196	6.3×11	2.1	217	6.3×15	2.2	226
27	5×11	1.3	182	6.3×11	1.5	216	6.3×11	1.9	242	6.3×15	2.0	256
33	6.3×11	1.2	227	6.3×11	1.1	241	6.3×15	1.7	306	8×11.5	1.8	307
39	6.3×11	0.83	246	6.3×11	1.0	263	6.3×15	1.5	332	10×12.5	1.6	381
47	6.3×11	0.58	271	6.3×15	0.9	332	8×11.5	1.2	367	10×12.5	1.3	410
56	6.3×11	0.52	298	6.3×15	0.8	361	10×12.5	1.1	451	10×16	1.2	510
68	6.3×15	0.47	372	8×11.5	0.7	415	10×12.5	0.9	503	10×20	1.0	636
82	6.3×15	0.42	418	10×12.5	0.6	501	10×16	0.8	605	10×20	0.85	676
100	8×11.5	0.39	463	10×16	0.5	623	10×20	0.65	751	10×25	0.70	839
120	10×12.5	0.34	551	10×16	0.42	675	10×20	0.58	823	10×31.5	0.62	1032
150	10×12.5	0.30	599	10×20	0.35	821	10×25	0.52	954	10×31.5	0.55	1070
180	10×16	0.26	731	10×20	0.31	893	10×31.5	0.42	1113	12.5×25	0.45	1115
220	10×16	0.23	796	10×25	0.27	1045	12.5×20	0.32	1142	12.5×31.5	0.35	1433
270	10×20	0.21	986	10×31.5	0.22	1203	12.5×25	0.28	1345	12.5×31.5	0.30	1509
330	10×20	0.18	1061	10×31.5	0.18	1305	12.5×25	0.22	1421	12.5×35.5	0.24	1693
390	10×25	0.15	1222	12.5×25	0.15	1441	12.5×31.5	0.19	1623	12.5×40	0.20	1828
470	10×31.5	0.12	1423	12.5×25	0.12	1506	12.5×35.5	0.16	1785	16×31.5	0.17	1902
560	12.5×20	0.10	1431	12.5×31.5	0.11	1682	12.5×40	0.14	1952	16×35.5	0.15	2080
680	12.5×25	0.085	1663	12.5×35.5	0.094	1853	16×31.5	0.12	2053	16×40	0.13	2313
820	12.5×25	0.075	1765	12.5×40	0.088	2017	16×35.5	0.11	2223	18×35.5	0.12	2357
1000	12.5×31.5	0.068	1982	16×31.5	0.076	2123	16×40	0.098	2374	18×40	0.10	2518
1200	12.5×35.5	0.062	2184	16×35.5	0.072	2264	18×40	0.088	2511			
1500	12.5×40	0.056	2362	16×40	0.065	2411						
1800	16×31.5	0.050	2475	18×35.5	0.058	2463						
2200	16×35.5	0.045	2684	18×40	0.050	2562						
2700	16×40	0.040	2903									
3300	18×40	0.036	3041									

↑ Impedance (Ω) (20°C, 100kHz)

↳ Rated ripple current (mA rms)(105°C, 100kHz)