

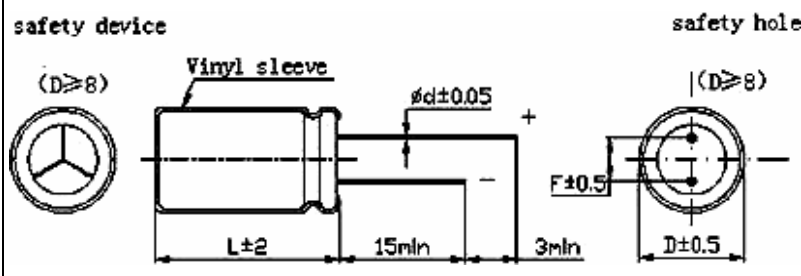
## Miniature Standard Capacitors

## CD11 Series Miniature Standard

Miniature Standard, Good Stable and reliable performances

$D \geq 8$ mm equipped with pressure release device

Widely used in DC or pulse circuit of TV, VCD (DVD), Audio systems, Telecommunications and Computers

Package Discription		Dimensions		
<p>safety device</p>  <p>safety hole</p>	$\phi D$	$F \pm 0.5$	$d \pm 0.1$	
	5	2	0.5	
	6	2.5		
	8	3.5		
	10	5	0.6	
	12			
	13			
	16	7.5	0.8	
	18			
	22			10
	25	12.5		
	26			

QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Nominal case sizes ( $\phi D \times L$ in mm)	5 x 11 to 26 x 42
Capacitance Range, $C_R$	0.1~10000 $\mu$ F (+20°C, 100 or 120Hz)
Operating Temp. Range	-40°C ~ +85°C
Rated Working Voltage	6.3 ~ 450 $V_{DC}$
$\Delta C/C_R$ Capacitance Tol.	$\pm 20\%$ , $^{+30}/_{-10}\%$ (+20°C, 100 or 120Hz)
Load Life	85°C, $U_R$ 1000
	$\Delta C \leq ^{+20}/_{-30}\%$ (6.3 $V_{DC}$ ), $\leq \pm 20\%$ (10-100 $V_{DC}$ ), $\leq \pm 15\%$ (160 $V_{DC}$ )
	$tg\delta \leq 200\%$ ( $\leq 100V_{DC}$ ), 150% ( $\geq 160V_{DC}$ ) After UR applied for 1000 hours at +85°C:
	Capacitance change $\Delta C \leq ^{+20}/_{-30}\%$ (6.3 $V_{DC}$ ), $\pm 20\%$ (10-100 $V_{DC}$ )
	$\pm 15\%$ ( $\geq 160V_{DC}$ ) of initial measured value.
	$tg\delta \leq 200\%$ ( $\leq 100V_{DC}$ ), 150% ( $\geq 160V_{DC}$ ) of specified value, $I_L \leq$ specified value.
Shelf Life	After shelf for 500 hours (without voltage applied) at +85°C, then restored for 16 hours at room temp.
	Capacitance change $\Delta C$ and $tg\delta$ shall meet specified in "Load Life", $I_L \leq 200\%$ of specified value
Type	Radial
Leakage Current $I_L$	$\leq 0.03 \cdot C_R \cdot U_R$ or $5\mu A$ ( $\leq 100V_{DC}$ ) $\leq 0.03 \cdot C_R \cdot U_R$ or $10\mu A$ ( $\leq 160V_{DC}$ )

C <sub>R</sub> , U <sub>R</sub> AND RELEVANT NOMINAL CASE SIZES(øD x L in mm)								
C <sub>R</sub> (µF)	U <sub>R</sub> (V)							
	6.3V	10V	16V	25V	35V	50V	63V	100V
0.1 ~ 0.68						5 x 11		
1						5 x 11		5 x 11
2.2						5 x 11		5 x 11
3.3						5 x 11		5 x 11
4.7					5 x 11	5 x 11		5 x 11
10			5 x 11	5 x 11	5 x 11	5 x 11	5 x 11	6 x 12
22	5 x 11	5 x 11	5 x 11	5 x 11	5 x 11	5 x 11	6 x 11	8 x 14
33	5 x 11	5 x 11	5 x 11	5 x 11	5 x 11	6 x 12	8 x 12	10 x 13
47	5 x 11	5 x 11	5 x 11	6 x 11	6 x 11	6 x 12	8 x 12	10 x 17
100	5 x 11	5 x 11	6 x 11	6 x 12	8 x 11	8 x 12	8 x 14	12 x 22
220	6 x 12	6 x 12	6 x 12	8 x 12	8 x 14	10 x 17	10 x 20	16 x 27
330	6 x 12	6 x 12	8 x 12	8 x 14	10 x 17	10 x 20	13 x 22	16 x 31
470	6 x 12	8 x 12	8 x 14	10 x 17	10 x 20	13 x 22	13 x 26	16 x 36
1000	8 x 12	8 x 14	10 x 17	12 x 22	13 x 22	16 x 27	16 x 31	22 x 42
2200	10 x 20	12 x 22	13 x 22	13 x 26	16 x 27	16 x 36	18 x 41	
3300	12 x 22	13 x 22	13 x 26	16 x 27	16 x 36	18 x 41	22 x 42	
4700		13 x 26	16 x 27	16 x 36	18 x 41	22 x 42	25 x 42	
6800			16 x 36	18 x 41	22 x 42	25 x 42	26 x 42	
10000			18 x 41	22 x 42				

C <sub>R</sub> (µF)	U <sub>R</sub> (V)				
	160V	200V	250V	400V	450V
0.1 ~ 0.68			5 x 12		
1	5 x 12	6 x 12	6 x 12	8 x 12	8 x 12
2.2	6 x 12	8 x 12	8 x 12	8 x 15	8 x 15
3.3	8 x 12	8 x 12	8 x 12	10 x 13	10 x 17
4.7	8 x 12	8 x 12	8 x 14	10 x 17	10 x 17
10	8 x 14	10 x 13	10 x 17	12 x 22	12 x 22
22	10 x 15	10 x 20	12 x 22	16 x 27	16 x 27
33	10 x 20	12 x 22	13 x 26	16 x 27	16 x 31
47	12 x 22	13 x 22	16 x 27	16 x 36	16 x 36
100	16 x 27	16 x 27	16 x 36		
220	16 x 36	18 x 41	22 x 42		
330	18 x 41	22 x 42			
470	22 x 42				

DISSIPATION FACTOR - tgδ	
U <sub>R</sub> (V)	tgδ
6.3	0.24
10	0.22
16	0.20
25	0.15
35	0.12
50, 63	0.10
100	0.08
160 ~ 250	0.16
400 ~ 450	0.20

### **Component Disposal Instructions**

1. CDIL Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

### **Disclaimer**

The product information and the selection guides facilitate selection of the **next** Capacitors best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Capacitor(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Capacitor or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s). CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



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