

# TS13E CD13L



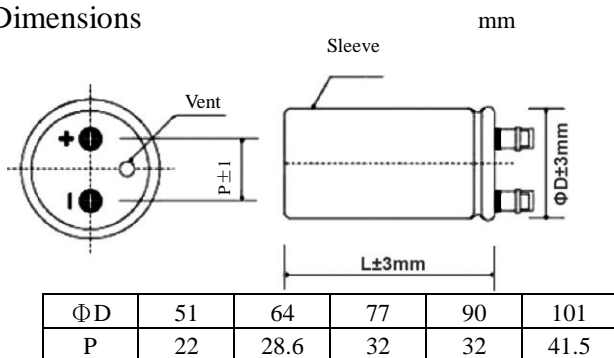
**FEATURES**

- Warranty of 20000 hours at 85°C

◆ Specifications

I T E M S		S P E C I F I C A T I O N S	
Rated Voltage Range (V)	350, 400, 450V		
Operating Temperature Range (°C)	-40°C ~ +85°C		
Capacitance Tolerance (20°C, 120Hz)	±20%		
Dissipation Factor (20°C, 120Hz)	Less than the values specified in the standard products tables.		
Leakage current (µA)	0.01CV or 5mA, whichever is smaller. (at 20°C, after 5 minutes) Where, C:Nominal capacitance (µF) V:Rated voltage (V)		
Load Life (+85°C)	Time	20000 hours	
	Leakage Current	Not more than the specified value.	
	Capacitance Change	Within ±15% of the initial value	
	Dissipation Factor	Not more than 175% of the specified value.	
Shelf Life (+85°C)	Time	1000 hours	
	Leakage Current	I Not more than the specified value.	
	Capacitance Change	Within ±15% of the initial value	
	Dissipation Factor	Not more than 175% of the specified value.	
After Test: U <sub>R</sub> to be applied for 30 minutes, 12 to 24 hours before measurement			

◆ Dimensions



◆ Multiplier for ripple current

Frequency coefficient

Frequency(Hz)	50,60	120	300	1K	≥10K
Factor	0.7	1.0	1.1	1.3	1.40

Temperature coefficient

Temperature(°C)	+40	+60	+70	+85
Factor	2.44	2.16	2.00	1.00

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## ■ STANDARD RATINGS

Rated Voltage (V.DC)	Surge Voltage (V.DC)	Rated Capacitance ( $\mu$ F)	Leakage Current Max (mA)	Dissipation Factor Max	Ripple Current 85°C 120Hz (Arms)	Outline Size	
						Code	DxL (mm)
350	400	1000	3.5	0.15	3.9	C8R	51x75
		1200	5.2	0.15	4.2	C8R	51x75
		1500	5.0	0.15	5.2	C10R	51x96
		1800	5.0	0.15	5.7	C10R	51x96
		2200	5.0	0.15	7.1	C13R	51x130
		2700	5.0	0.15	7.7	D10R	64x96
		3300	5.0	0.15	9.1	D12R	64x115
		3900	5.0	0.15	10.4	D13R	64x130
		4700	5.0	0.15	12.2	D16R	64x155
			5.0	0.15	11.5	E12R	77x115
		5600	5.0	0.15	14.6	D20R	64x195
			5.0	0.15	13.1	E13R	77x130
		6800	5.0	0.15	15.5	E16R	77x155
		8200	5.0	0.15	18.1	F16R	90x157
		10000	5.0	0.15	19.9	F16R	90x157
12000	5.0	0.15	23.8	F20R	90x196		
15000	5.0	0.15	28.8	F24R	90x236		
400	450	1000	4.0	0.15	3.9	C8R	51x75
		1200	4.8	0.15	4.6	C10R	51x96
		1500	5.0	0.15	5.6	C12R	51x115
		1800	5.0	0.15	6.4	C13R	51x130
		2200	5.0	0.15	6.9	D10R	64x96
		2700	5.0	0.15	8.2	D12R	64x115
		3300	5.0	0.15	9.5	D13R	64x130
		3900	5.0	0.15	11.1	D16R	64x155
			5.0	0.15	10.4	E12R	77x115
		4700	5.0	0.15	13.4	D20R	64x195
			5.0	0.15	12.0	E13R	77x130
		5600	5.0	0.15	14.6	D20R	64x195
			5.0	0.15	14.4	E16R	77x155
		6800	5.0	0.15	16.5	F16R	90x157
		8200	5.0	0.15	18.1	F16R	90x157
10000	5.0	0.15	21.7	F20R	90x196		
12000	5.0	0.15	25.8	F24R	90x236		
450	500	1000	4.5	0.15	4.2	C10R	51x96
		1200	5.0	0.15	5.0	C12R	51x115
		1500	5.0	0.15	5.9	C13R	51x130
		1800	5.0	0.15	6.3	D10R	64x96
		2200	5.0	0.15	7.4	D12R	64x115
			5.0	0.15	8.6	D13R	64x130
		2700	5.0	0.15	8.7	E12R	77x115
			5.0	0.15	10.2	D16R	64x155
		3300	5.0	0.15	10.1	E13R	77x130
			5.0	0.15	12.3	D20R	64x195
		3900	5.0	0.15	12.9	E16R	77x155
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		5600	5.0	0.15	18.0	F20R	90x196
		6800	5.0	0.15	19.8	F20R	90x196
8200	5.0	0.15	19.8	F20R	90x196		
10000	5.0	0.15	23.6	F24R	90x236		

Note: Specification are subject to change without notice. For more detail and update, please visit our website.