

# TH Series

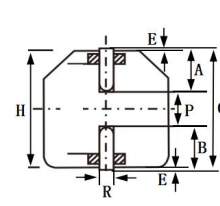
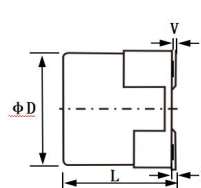
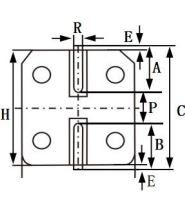
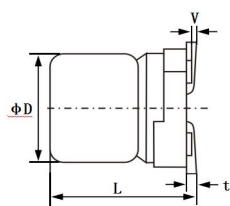
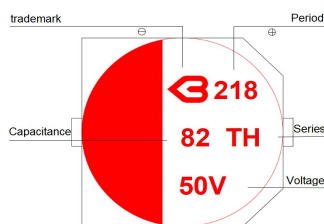
- Low ESR    ● High Voltage, Long Life.
- 135°C, 1,000~3,000hrs.
- RoHS compliant
- AEC-Q200 qualified



## ◆ Specifications

Items	Characteristics		
Category	-55 ~ +135°C		
Temperature Range	-55 ~ +135°C		
Rated Voltage Range	16 ~ 250 V		
Capacitance tolerance	±20%(M) (at 20°C,120Hz)		
Leakage Current	≤0.01CV or 10μA (The bigger) After 2 minutes applied for rated voltage at 20°C, less than or equal to the specified value.		
Dissipation Factor	Less than or equal to the specified		
Low Temperature Characteristics (Max.Impedance Ratio)	Z(-55°C)/Z(+20°C)	≅ 0.75 to 1.5	(100KHz)
	Z+125°C)/Z(+20°C)	≅ 0.75 to 2.0	
Endurance	ΦD=Φ6.3=1,000hrs, ΦD=Φ8=2,000hrs, ΦD≧Φ10=3,000hrs; The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 1,000 to 3,000 hours at 135°C. ΦD=Φ6.3=1,000hrs,ΦD=Φ8=2,000hrs, ΦD≧Φ10=3,000hrs;		
	Appearance	No significant damage	
	Capacitance change	≅ ±30% of the initial value	
	D.F.(tanδ)	≅ 200% of the specified value	
	ESR	≅ 200% of the specified value	
	Leakage current	≅ The specified value	
Damp Heat (Steady State)	The specifications listed below shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 60°C, 90%~ 95% RH.		
	Appearance	No significant damage	
	Capacitance change	≅ ±30% of the initial value	
	D.F.(tanδ)	≅ 200% of the specified value	
	ESR	≅ 200% of the specified value	
	Leakage current	≅ The specified value	
(Surge Voltage)	Surge Voltage=Rated voltage * 1.15(V)		
	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltages specified at 15~35°C for 30 seconds through a protective resistor (R=1kΩ) and discharge for 5 minutes 30seconds		
	Appearance	No significant damage	
	Capacitance change	≅ ±30% of the initial value	
	D.F.(tanδ)	≅ 200% of the specified value	
	Leakage current	≅ The specified value	

## ◆ Dimensions (mm)



(Unit:mm)

Vibration resistant structure

Size	ΦD	L	W	H	C	R	P
6.3*11.5	6.3	11.5	6.6	6.6	7.3	0.5~0.8	2.1
8*10.5	8	10.5	8.3	8.3	9	0.7~1.1	3.2
10*10.5	10	10.5	10.3	10.3	11	0.7~1.3	4.6
10*12.5	10	12.5	10.3	10.3	11	0.7~1.3	4.6

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## ◆ Standard Ratings

Rated voltage (V)	Rated capacitance( $\mu$ F)	Case size $\Phi$ D*L(mm)	Leakage current ( $\mu$ A)	ESR(m $\Omega$ ) at 20 $^{\circ}$ C, 100 KHz	Rated ripple current (mArms/135 $^{\circ}$ C/100kHz)	$\tan\delta$ (120Hz)
16	100	6.3*5.8	16.0	30	1000	0.16
	220	6.3*7.7	35.2	25	1300	0.16
	470	8*10.5	75.2	15	1800	0.16
25	100	6.3*5.8	25.0	30	1000	0.16
	220	8*10.5	55.0	25	1500	0.16
	330	10*10.5	82.5	20	2000	0.16
35	47	6.3*5.8	16.5	50	800	0.16
	100	8*10.5	35.0	30	1000	0.16
	220	8*10.5	77.0	25	1600	0.16
50	47	8*10.5	10.0	30	1300	0.16
	100	10*10.5	50.0	25	2500	0.16
	220	10*16.5	110.0	16	3600	0.16
63	100	10*12.5	10.0	20	3200	0.16
	150	10*16.5	94.5	16	3600	0.16
80	47	10*12.5	10.0	30	2500	0.16
	68	10*12.5	54.4	25	2800	0.16
	100	10*16.5	80.0	20	3200	0.16
100	47	10*16.5	47.0	30	2300	0.16
160	6.8	10*12.5	10.9	150	1000	0.16
250	4.7	10*12.5	11.8	465	800	0.16

## ◆ Rated Ripple Current Coefficient

Frequency(Hz)	100Hz $\leq$ f<1kHz	1kHz $\leq$ f<10kHz	10kHz $\leq$ f<100kHz	100kHz $\leq$ f
4.7<C $\leq$ 33	0.05	0.32	0.67	1.00
33<C	0.10	0.35	0.70	1.00