

TH Series

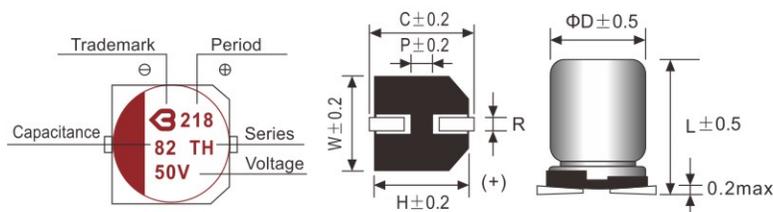
- Low ESR ● High Voltage, Long Life. ● 135°C, 1,000~3,000hrs.
- RoHS compliant ● AEC-Q200 qualified



◆ Specifications

Items	Characteristics		
Category Temperature Range	-55 ~ +135°C		
Rated Voltage Range	16~250V		
Capacitance tolerance	±20%(M) (at 20°C,120Hz)		
Leakage Current	I ≤ 0.01CV or 10μA (The bigger) After 2 minutes applied for rated voltage at 20°C, less than or equal to the specified value.		
tan δ Dissipation Factor	Less than or equal to the specified (at 20°C,120Hz)		
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.(tan δ)	≅ 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.(tan δ)	≅ 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 30 seconds		
	Appearance	No significant damage	
	Capacitance change	≅ ±30% of the initial value	
	D.F.(tan δ)	≅ 200% of the specified value	
	ESR	≅ 200% of the specified value	
	Leakage current	≅ The specified value	

◆ Dimensions (mm)



(Unit:mm)

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(μ F)	Case size Φ D \times L(mm)	Leakage current (μ A)	ESR(m Ω) at 20 $^{\circ}$ C, 100 kHz	Rated ripple current (mA _{rms} /135 $^{\circ}$ C/100kHz)	Tan δ (120Hz)
16	120	6.3*11.5	19.2	40	900	0.16
	270	8*12.5	43.2	30	1300	0.16
	470	10*12.5	75.2	25	1800	0.16
25	68	6.3*11.5	17.0	45	800	0.16
	150	10*10.5	37.5	30	1100	0.16
	270	10*12.5	67.5	25	1300	0.16
35	47	6.3*11.5	16.5	60	700	0.16
	100	10*10.5	35.0	40	1000	0.16
	150	10*12.5	52.5	30	1200	0.16
50	15	6.3*11.5	10.0	80	600	0.16
	33	10*10.5	16.5	50	900	0.16
	56	10*12.5	28.0	35	1100	0.16
63	10	6.3*11.5	10.0	100	500	0.16
	22	10*10.5	13.9	50	800	0.16
	33	8*12.5	20.8	50	800	0.16
	33	10*12.5	20.8	40	1000	0.16
80	12	10*12.5	10.0	90	700	0.16
	15	10*12.5	12.0	90	700	0.16
100	10	10*12.5	10.0	100	600	0.16
160	6.8	10*12.5	10.9	150	480	0.16
250	4.7	10*12.5	11.8	465	200	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