

TF* Series

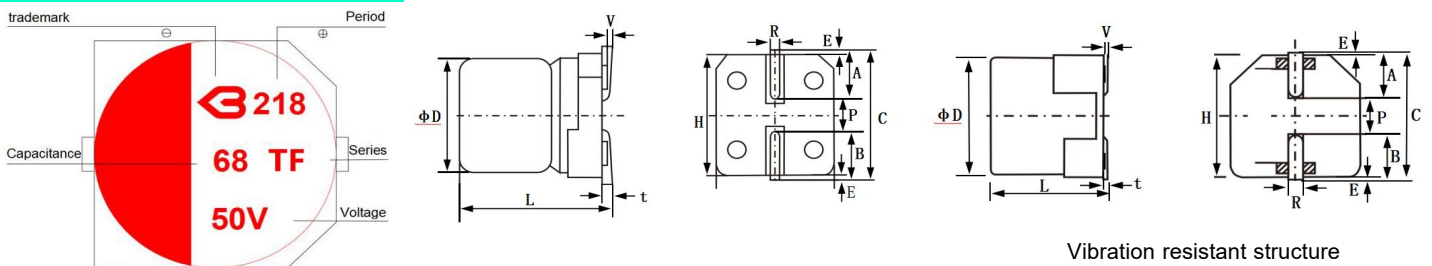
- High reliability hybrid capacitors for automotive equipment electronics
- Endurance with ripple current : 1000hours at 150°C
- High Voltage: 16~250V
- RoHS compliant
- Halogen Free
- AEC-Q200 compliant



◆ Specifications

Items	Characteristics		
Category	-55 ~ +150°C		
Temperature Range	25 ~ 63 V		
Rated Voltage Range	±20%(M) (at 20°C,120Hz)		
Capacitance tolerance	≤0.01CV or 10μA (The bigger) After 2 minutes applied for rated voltage at 20°C, less than or equal to the specified value.		
Leakage Current	Less than or equal to the specified		
Dissipation Factor	Z(-55°C)/Z(+20°C)	≅ 0.75 to 1.5	(100KHz)
Low Temperature Characteristics (Max.Impedance Ratio)	Z(+150°C)/Z(+20°C)	≅ 0.75 to 2.0	
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 1,000 hours at 150°C.		
	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 * 1.25(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	
	ESR	≅ 200% of the specified value	
	Leakage current	≅ The specified value	

◆ Dimensions (mm)



Vibration resistant structure

Unit:mm

Size	ΦD	L	W	H	C	R	P
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

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◆ Standard Ratings

Rated voltage (V)	Rated capacitance(μ F)	Case size Φ D*L(mm)	Leakage current (μ A)	ESR(m Ω) at 20°C, 100 KHz	Rated ripple current (mA _{rms} /150°C/100kHz)	tan δ (120Hz)
25	150	8*10.5	37.5	27	800	0.14
	270	10*10.5	67.5	20	1000	0.14
35	100	8*10.5	35.0	30	770	0.12
	150	10*10.5	52.5	23	950	0.12
50	56	8*10.5	28.0	35	700	0.10
	100	10*10.5	50.0	28	900	0.10
63	33	8*10.5	20.8	40	650	0.08
	56	10*10.5	35.3	30	840	0.08

◆ 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