

# MF73T-1 type high power NTC thermistor for inrush current limiting

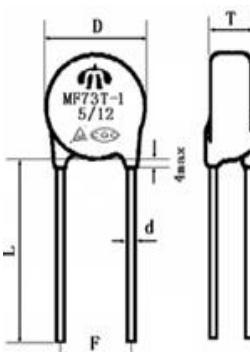
## 1.Electrical Properties

	Item	Symbol	Test conditions	Unit	Performance requirements
1.1	25°C nominal zero-power resistance	R <sub>25</sub>	T <sub>a</sub> =25±0.5°C test power≤0.1mw in air	Ω	5 Ω ±20%
1.2	B value	B <sub>25/50</sub>	B=[(T <sub>a</sub> ×T <sub>b</sub> )/(T <sub>b</sub> -T <sub>a</sub> )]×ln(R <sub>b</sub> /R <sub>a</sub> )	K	3000±10%
1.3	Maximum current within stated temperature range	I <sub>max</sub>	/	A	12
1.4	Maximum capacitance	C <sub>T</sub>	240Vac	μ F	1200
1.5	Dissipation factor	δ	/	mW/°C	Approx. 28
1.6	Thermal cooling time constant	τ	/	sec	Approx. 110
1.7	Withstand voltage	/	500V/AC 1min	/	No breakdown or flash-over
1.8	Insulation resistance	/	500V/DC 1min	MΩ	≥500
1.9	Working temperature range	/	/	°C	-40 ~ 200
1.10	Maximum power within stated temperature range	P <sub>max</sub>	/	W	5

## 2.Reliability

Item	Test conditions and methods	Technical requirement
2.1 Leading end strength	Pull: wire diameter (mm) Pull (N) 0.5<d≤0.8 10 0.8<d≤1.25 20 Time: 10±1seconds	No visible damage △R/R≤±25%
2.2 Solderability	Temp.. 245±5°C Time 2-3seconds	Tin area≥95%
2.3 Resistance to welding heat	Tin pot temp.: 260±5°C, Distance from thermistor 6mm, Time 10±1seconds	△R/R≤±25%
2.4 Steady state dampness and heat	Temp: 40°C±2°C, Humidity: 93±2%, Time: 1000 hours	△R/R≤±25%
2.5 Rapid change of temperature	-40°C30min→25°C5min→170°C30min→25°C5min, Repeat 5 times	△R/R≤±25%
2.6 High-temperature storage	Temp.: 170°C±5°C, Time:1000 hours	△R/R≤±25%
2.7 I <sub>max</sub> Endurance	Ambient temperature: 25 ±5 ° C I = I <sub>max</sub> Time: 1000±24h	△R/R≤±25%
2.8Maximum permissible capacitance test	Ambient temperature: 25 ±5 ° C Capacitance = C <sub>test</sub> Number of cycles: 1000	△R/R≤±25%

## 3.Dimension : (Unit: mm)



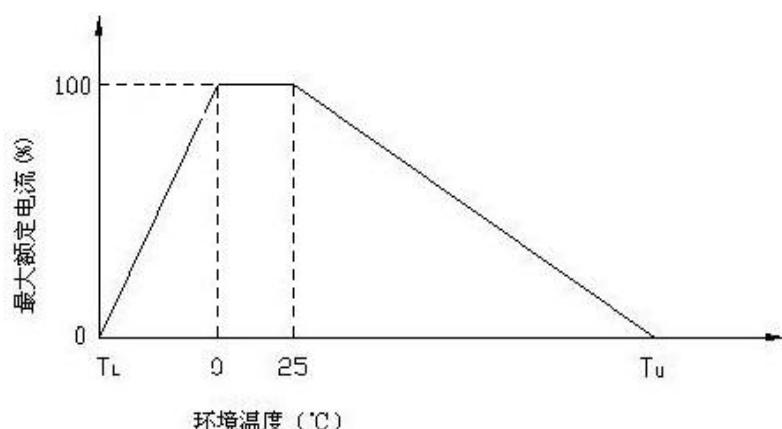
Encapsulation material	Lead wire material
Black silicone resin	Tinned copper wire

D	L	F	T	d
Max22.5	Min25	10.0±1	Max7.0	1.0±0.05

## 4 Product model & marking description

 MF73T-1 5 / 12  
 ① ② ③ ④  
 ① Logo  
 ② MF73T-1: Model type  
 ③ 5: R<sub>25</sub>: 5 Ω  
 ④ 12 : I<sub>max</sub>: 12A

## 5 Derating curve



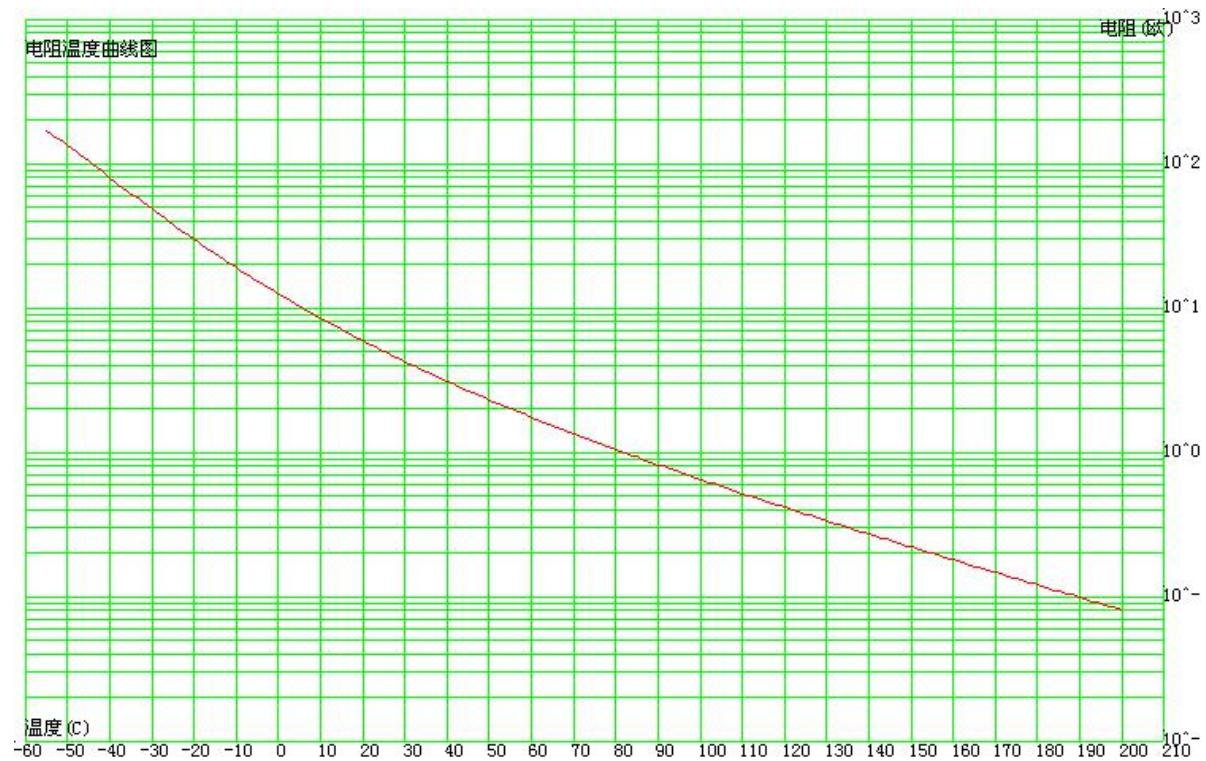


figure 1:Resistance versus temperature

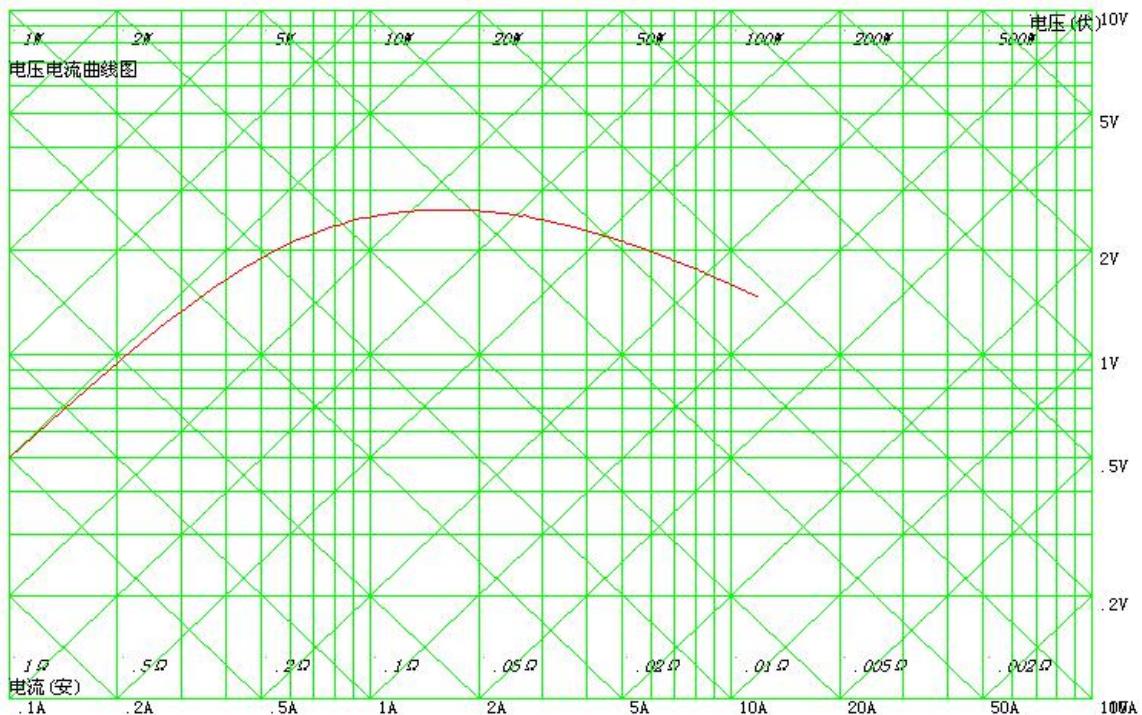


figure 2: Voltage versus current