SOCAY

Power Thermistor for Limiting Inrush Current (NTC Thermistor)

MF72-SCN30D-15

Features

- RoHS & Halogen Free (HF) compliant
- Body size: Φ15mm
- Silicone resin
- High power rating
- Wide resistance range
- Cost effective
- Operating temperature range: -40~+200℃
- Agency recognition: UL /cUL/RoHS
- Package color: green

Recommended Applications

- Switch mode power supply
- Electric motor
- Transformer
- Adapter
- Projector
- Halogen lamp
- LED driver circuit

Storage Conditions of Products

- Storage Conditions:
  Storage Temperature: -10℃ ~ +40℃.
  Storage humidity：≤ 75%RH.
  Keep away from corrosive atmosphere and sunlight.
- Keep sealed after use.

Welding and conditions of use

- The welding temperature is less than 360 degrees, the distance from the main body is at least 2mm, Time should be as short as possible
- When cutting the lead, pay attention to the shortest lead is 6mm

Part Number Code

MF72	-	SCN	30D	-	15
(1)		(2)	(3)		(4)

(1) MF72: MF72 Series.
(2) SCN: Socay NTC.
(3) 30D: Zero Power Resistance at 25℃(R_{25}): 30=30Ω.
(4) Body Size: 15=Φ15mm.

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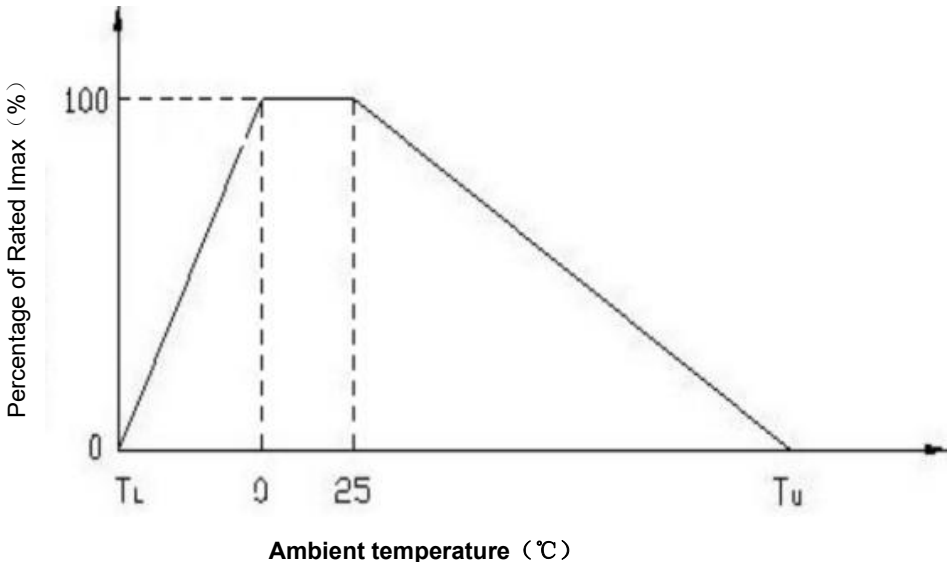
Electrical Characteristics

Part Number	Resistance at 25℃ ±20%	Max. Permissible Working Current	Resistance under Load (mΩ)	Dissipation Factor	Thermal Time Constant	Maximum permissible capacitance @240Vac
	R_{25}(Ω)	I_{max}(A)	(mΩ)	δ(mW/℃)	τ(Sec.)	C(uF)
MF72-SCN30D-15	30	3.5	438	21	75	470

Maximum Current Derating（I/Imax）



Remarks ： T_{L}=lowest temperature (℃)

T_{U}=Maximum temperature (℃)

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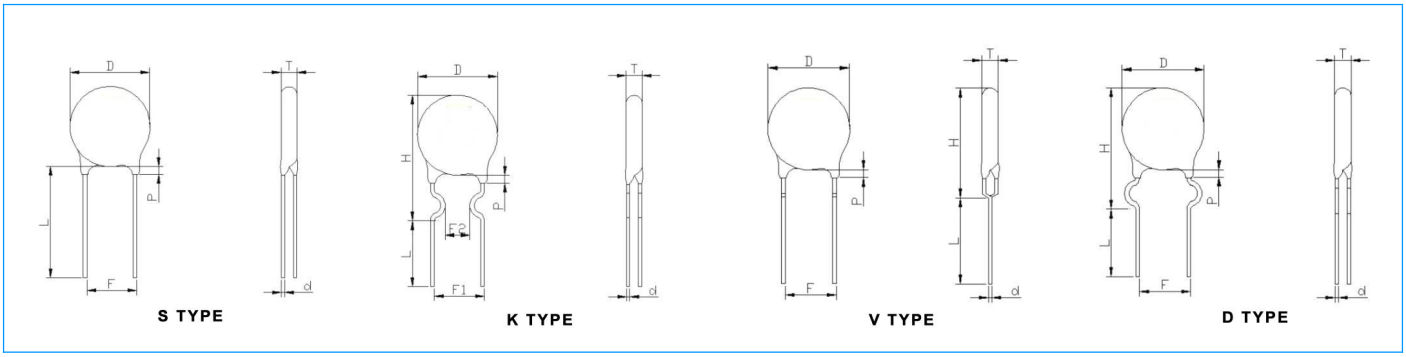
Structure and Dimensions (Unit: mm)



D max	T max	P max	F	H max	L	d	Type
16.5	5.5	3.5	7.5±1.0	23.0	Min17.0	0.8±0.05	S/K/V/D

Note: Length of Pin (L) can be customized.

Packing Specifiction

Part Number	Type	Quantity (pcs/bag)
MF72-SCN30D-15	S/K/V/D	250

Electrical performance

Item	Standard test	Definition and test method
Zero power resistance	R_{25}=30Ω±20%	Zero load resistance at 25℃, At=25℃±0.05 ℃ constant oil tank test;
Maximum steady state current	I_{max}=3.5A	Maximum continuous current allowed to be applied to the resistor at 25℃
Maximum allowable capacity	Maximum rate of change of resistance value At △R/R≤±20%, and No damage to appearance	Apply maximum capacitance, intermittent closing 50Ms, recovery time 5 times, 500 cycles
B value	B25/50=2880±10%	B value between 25℃ and 50℃ B=Ln(R1/R2)/(1/T1-1/T2) T1 = (273.15 + 25) K T2 = (273.15 + 50) K Note: 273.15 is absolute temperature
Thermal time constant	≈75seconds	Under zero power conditions, in still air, the time required for the temperature of the thermistor to drop to 63.2% of the difference between its initial temperature and the final temperature.
Heat dissipation coefficient	δ≈21mW/℃	The power required to increase the temperature of the thermistor by 1°C in still air at 25°C
residual resistance	0.438Ω	Pass maximum steady state current and reach steady state resistance value
Insulation resistance	≥100MΩ	Press 500VDC at room temperature for 60sec
Operating temperature range	T_W=-40℃～+170℃	Temperature range under specified use conditions

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Reliability

NO	Item	Standard	Test method	Technology requirement
1	Solderability	IEC60068-2-20 (GB2423.28)	Dip the terminal with flux, and immerse it in a tin bath with a temperature of 235±5℃, and the tin surface is 2～2.5mm away from the lower end of the NTC body for 2±0.5S. Check the appearance after the test	The solder on the terminal end flows freely and well wetted, and the upper tin area is more than 95%.
2	Resistance to welding heat	IEC60068-2-20 (GB2423.28)	Dip the terminal with flux and immerse it in a tin bath at a temperature of 260±5℃, the tin surface is at least 6mm away from the bottom of the NTC body, duration: 10±1S. After the test is completed, after recovering 1 ～ 2Hr under normal temperature and humidity, check the appearance and retest R25 rated zero power resistance	No visible damage in appearance △R/R25≤±25%
3	Terminal strength	IEC60068-2-21 (GB2423.29)	Test 1: Tensile force 10N, continuous 10S. Test 2: Bend at 90° for two consecutive times, with a tensile force of 5N, and lasting for 10S: After the test is completed, after recovering 1 ～ 2Hr under normal temperature and humidity, Check the appearance and retest R25 rated zero power resistance	No visible damage in appearance △R/R25≤±25%
4	High temperature test	IEC60068-2-2 (GB2423.2)	Environment temperature: 120℃±5℃ Duration: 1000±24h After the test is completed, after recovering 1～2Hr under normal temperature and humidity, retest R25 rated zero power resistance	△R/R25≤±25%
5	Low temperature test	IEC60068-2-1 (GB2423.1)	Environment temperature: -40℃±5℃ Duration: 1000±24h After the test is completed, after recovering 1～2Hr under normal temperature and humidity, Retest R25 rated zero power resistance	△R/R25≤±25%
6	Room temperature energization test	--	25±5℃, energized 1000±24h, DC0.2mA. Ambient temperature: 40℃±2℃ Ambient humidity: 90%～95%	△R/R25≤±25%

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Reliability （Continue）

NO	Item	Standard	Test method	Technology requirement
7	Humidity resistance test (Steady state damp heat)	IEC60068-2-3 (GB2423.3)	Duration: 1000±24h After the test is completed, after recovering 1～2Hr under normal temperature and humidity, Retest R25 rated zero power resistance	△R/R25≤±25%
8	Thermal shock test	IEC60068-2-14 (GB2423.22)	Low temperature: -30℃±2℃ Low temperature residence time: 3min±0.5min High temperature: 150℃±5℃ High temperature residence time: 3min±0.5min High and low temperature conversion time: ≤30S, repeated 100 times After the test is completed, after recovering 1～2Hr under normal temperature and humidity, Retest R25 rated zero power resistance	△R/R25≤±25%