

## Description

SCC-D series ceramic PTC thermistor is a circuit protector whose resistance value in normal operation is very low and in abnormal situations like overcurrent or overheating, will be increased to restrain overcurrent. SCC-D series can be used for overcurrent protection against current fuse or temperature fuse, due to its ability to return to its initial condition when overcurrent is removed.



## Features

- Leaded thermistor disk with coating.
- Lead diameter 0.6mm.
- Linked leads of tinned copper wire.
- Low residue current.
- Circuit is protected until current is turned off.
- Restores the original low resistance value automatically once the overload is removed.
- Non-contact design leads to long life and no noise. Durable and strong against mechanical vibration and shock because it is a solid element.

## Applications

- High voltage electric implement
- Digital multimeter
- Intelligent power-meter
- Industrial controls
- Telecom device

### Basic reference data

PARAMETER	VALUE	UNIT
Maximum voltage (RMS)	250	V
Maximum current	3	A
Temperature range (V=Vmax)	0 to +70	°C
Weight	~1.0739	g
Resistance(25°C)	50	Ω
The initial resistance difference of one package	1.0	Ω

### Electrical Characteristics

No.	ITEM	Min.	Typ.	Max.	Unit
1	Rated zero power resistance (25°C)	40	50	60	Ω
2	The initial resistance difference of one package			1.0	Ω
3	Hold current at 40±2°C	60			mA
4	Trip time 3A→0.5A			150	mS
	2A→0.5A			300	mS
	1A→0.5A			600	mS
	0.75A→0.15A			1.5	S
	0.5A→0.15A			3.5	S
5	Recovery time Ac 220V, initial current 1A			8	S
				60	S
6	Surge test: 10/1000 μs, 1KV, 25A, impulse 30 times, No crack and fire.		25		A
7	Power induction test: 650V <sub>AC</sub> , R <sub>s</sub> =600Ω, On 1s, Off 60s, 10 times, No damage and fire				V
8	Power conduct test: 250 V <sub>AC</sub> , no current-limited resistance for 15min, no damage.		250		V
9	Power contact test: 250 V <sub>AC</sub> , 3A, on 1 min, off 10min, 20times, ΔR/R≤20%.		250		V
			3		A
10	Failure Mode Ac600V, R <sub>L</sub> =0, electrify 60min,once No breakdown and damage		600		V
11	Operating temperature range (V=0) (V=Vmax)		-40~+85		°C
			0~+70		

### Physical Specifications

Lead material	Tin plated Cu
Coating material	Silicon resin
Solder heat withstand	IEC-STD 68-2-20,
Lead solderability	EIC60068-2-58
Flammability rating	IEC 695-2-2 Needle Flame Test for 20 s
Storage humidity	Per IPC/JEDEC J-STD-020A Level 2a

**Note:** Storage conditions: 55°C max., 85% RH max., devices should remain in original sealed bag prior to use. Devices may not meet specified values if these storage conditions are exceeded.

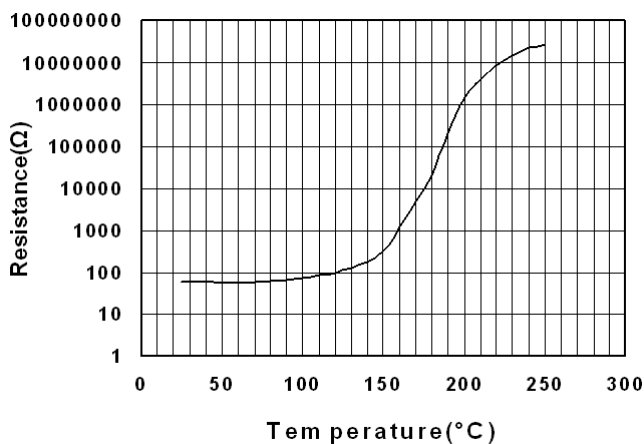
### Environmental Specifications

Test	Conditions
Dry Hot	70°C, 0V, 1000 hours
Dry Cold	0°C, 0V, 1000 hours
Humidity aging	40°C, 95% RH, 0V, 1000 hours
Thermal shock	70°C, 0°C (5 times)
Solvent resistance	MIL-STD-202, Method 215F

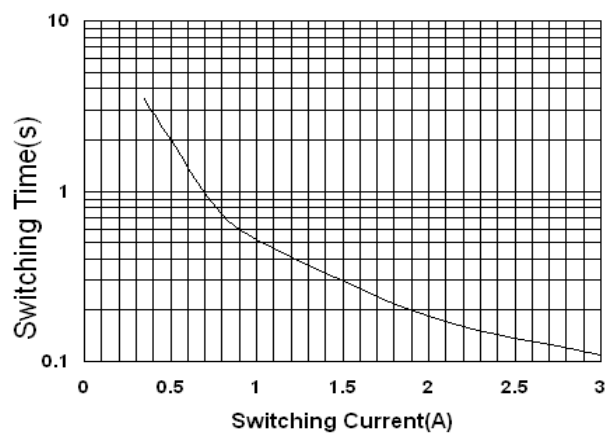
### Telcom Standards

- ITU-T K.20/21/45
- GR-1089-CORE
- YD/741
- Q/320581BJH302-2004

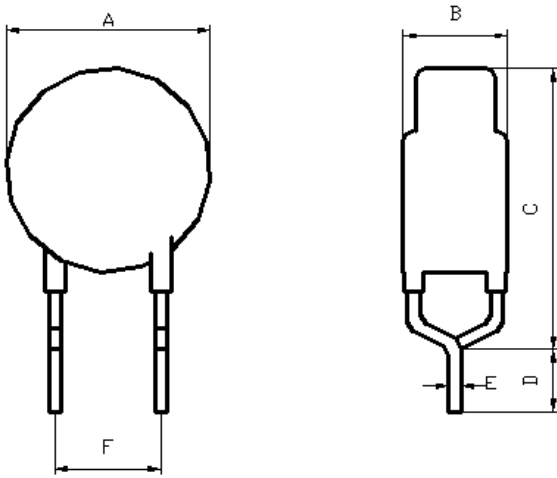
### R-T characteristics



### Switching time vs Switching current

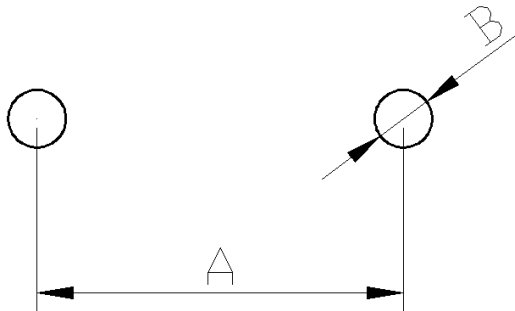


**Product Dimensions (mm)**



Ref.	Dimensions	
	Millimeters	
	Min.	Max.
A		9.8
B		5.0
C		14.5
D	2.5	4.5
E	0.55	0.65
F	3.5	6.5

**Recommended PAD Hole**



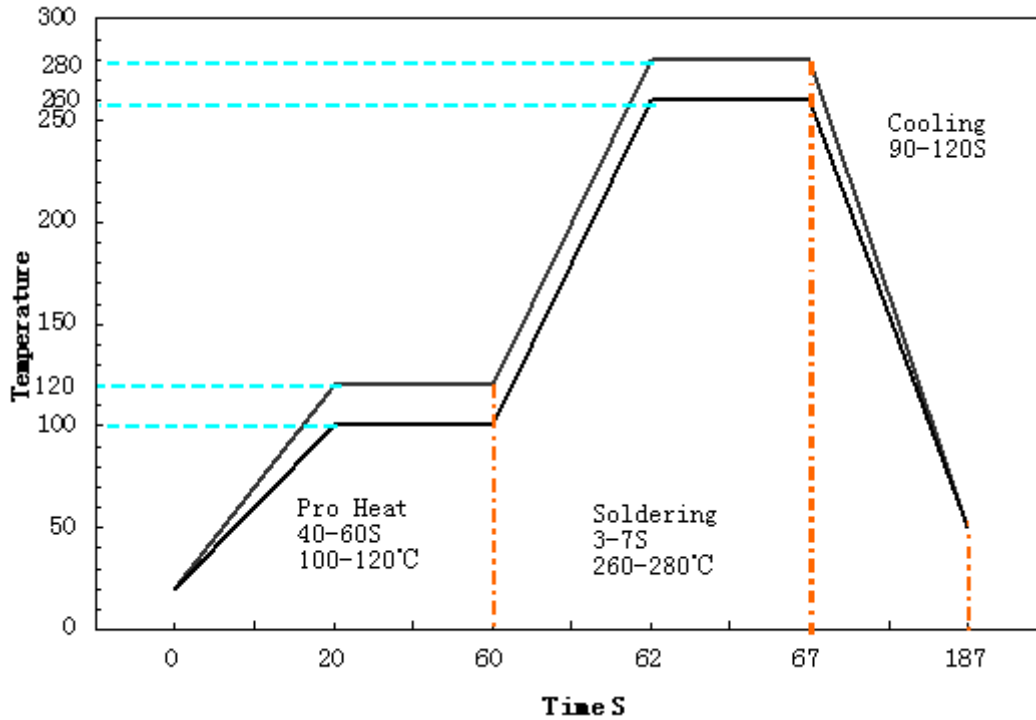
A	B	Unit
5.0	0.8-0.9	mm

**Markings**

SCC500

### Wave Soldering and Rework Recommendations

- Recommended wave soldering methods.
- Devices can be cleaned using standard industry methods and solvents.
- If a device is removed from the board, it should be discarded and replaced with a new device.
- Leaded devices are not designed to be compatible with reflow soldering manufacturing operations.
- Lead free wave soldering curve.



**NOTE** If wave solder temperatures exceed recommended profile, devices may not meet the performance requirements, If the wave soldering curve can not satisfy your product, please contact SEMITEL.

### Storage

The production should be in the environment of good ventilation. The indoor temperature is  $-40^{\circ}\text{C} \sim +55^{\circ}\text{C}$ , and the relative humidity  $\leq 85\%$  (at  $25^{\circ}\text{C}$ ), without acid, alkali and other harmful impurity.

### Package Information

Package	Bag QTY	Box QTY	Component Weight	Net Weight Per Box	Gross Weight/Per Box	Box Outline mm
	PCS	PCS	g	Kg	Kg	
Bulk	640	10240	1.0739	11.00	12.49	380×250×290