

# Radial Lead Resettable Polymer PTCs

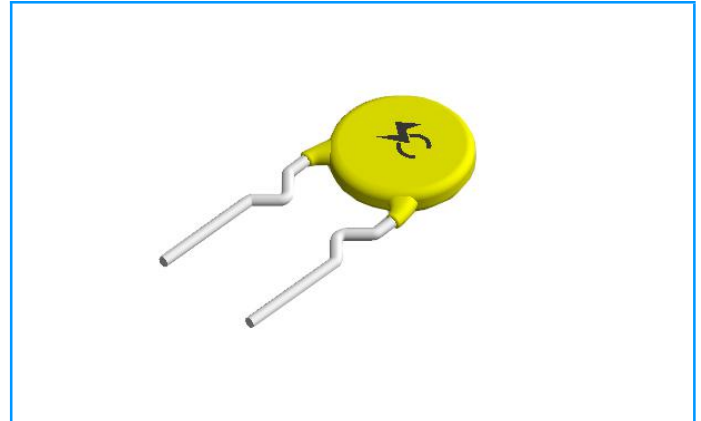
## SC6-050CW0A

### Features

- ◆ RoHS Compliant and Halogen-Free
- ◆ Radial leaded Devices
- ◆ Cured, flame retardant epoxy polymer insulating material meets UL94V-0 requirements
- ◆ Operation Current: 0.50A, Maximum Voltage: 6Vdc, Operating Temperature: -40°C to +85°C

### Applications

- ◆ Computers and peripherals
- ◆ Power ports
- ◆ General electronics



### Electrical Parameters

| Part Number | I <sub>hold</sub> (A) | I <sub>trip</sub> (A) | V <sub>max</sub> (Vdc) | I <sub>max</sub> (A) | P <sub>dtyp</sub> (W) | Maximum Time To Trip |          | Resistance            |                       |                        |
|-------------|-----------------------|-----------------------|------------------------|----------------------|-----------------------|----------------------|----------|-----------------------|-----------------------|------------------------|
|             |                       |                       |                        |                      |                       | Current (A)          | Time (S) | R <sub>min</sub> (mΩ) | R <sub>max</sub> (mΩ) | R1 <sub>max</sub> (mΩ) |
| SC6-050CW0A | 0.50                  | 1.0                   | 6                      | 40                   | 4.5                   | 1.5                  | 10       | 200                   | 450                   | 675                    |

I<sub>hold</sub> = Hold current: maximum current at which the device will not trip at 25°C still air.

I<sub>trip</sub> = Trip current: minimum current at which the device will always trip at 25°C still air.

V<sub>max</sub> = Maximum voltage device can withstand without damage at rated current.

I<sub>max</sub> = Maximum fault current device can withstand without damage at rated voltage.

T<sub>trip</sub> = Maximum time to trip(s) at assigned current.

P<sub>dtyp</sub> = Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

R<sub>min</sub> = Minimum device resistance at 25°C prior to tripping.

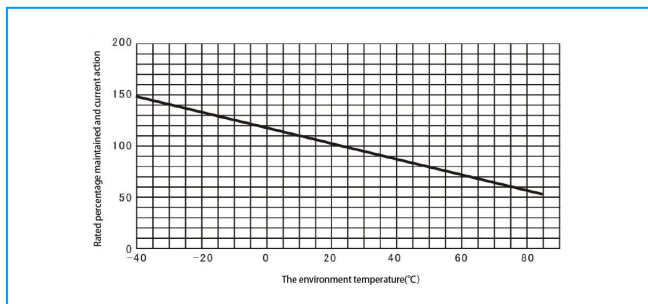
R<sub>max</sub> = Maximum device resistance at 25°C prior to tripping.

R1<sub>max</sub> = Maximum resistance of device at 25°C measured one hour after tripping.

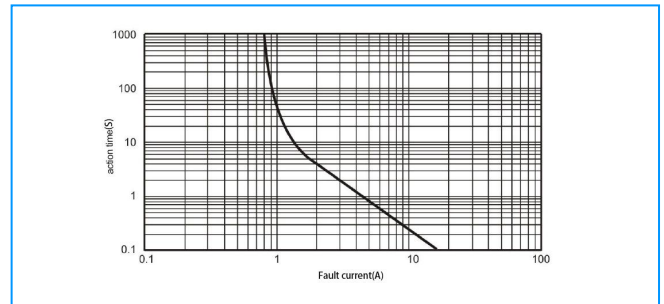
Caution: Operation beyond the specified rating may result in damage and possible arcing and flame.

| Part Number | Maximum Ambient Operation Temperature |       |      |      |      |      |      |      |      |
|-------------|---------------------------------------|-------|------|------|------|------|------|------|------|
|             | -40°C                                 | -20°C | 0°C  | 25°C | 40°C | 50°C | 60°C | 70°C | 85°C |
|             | Hold Current (A)                      |       |      |      |      |      |      |      |      |
| SC6-050CW0A | 0.73                                  | 0.65  | 0.58 | 0.50 | 0.42 | 0.39 | 0.34 | 0.31 | 0.25 |

### Average Time Current Curves



### Temperature Rerating Curve



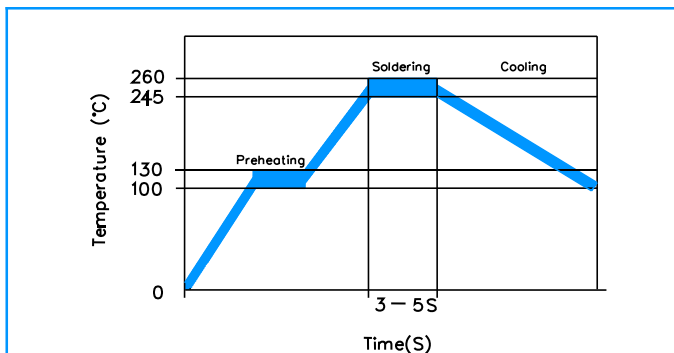
# Radial Lead Resettable Polymer PTCs

## SC6-050CW0A

### Test Procedures and Requirements

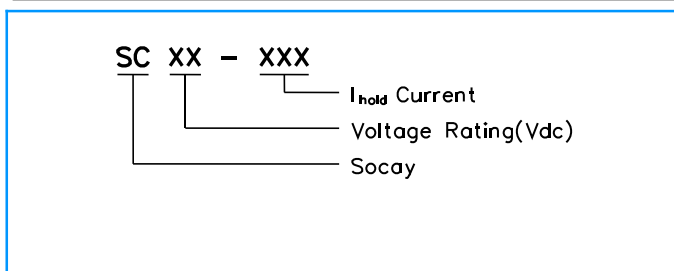
| Test Item                   | Test Conditions                      | Accept/Reject Criteria              |
|-----------------------------|--------------------------------------|-------------------------------------|
| Resistance                  | In still air @25°C                   | $R_{min} \leq R \leq R_{max}$       |
| Hold Current                | 60 min, @ $I_{hold}$                 | No trip                             |
| Time to Trip                | Specified current, $V_{max}$ , @25°C | $T \leq$ Maximum Time To Trip       |
| Frequency Current Withstand | $V_{max} / I_{max}$ , 15 minute      | Resistance change rate: $\leq 50\%$ |
| Trip Endurance              | $V_{max} / I_{max}$ , 24hours        | No arcing or burning                |

### Soldering Parameters

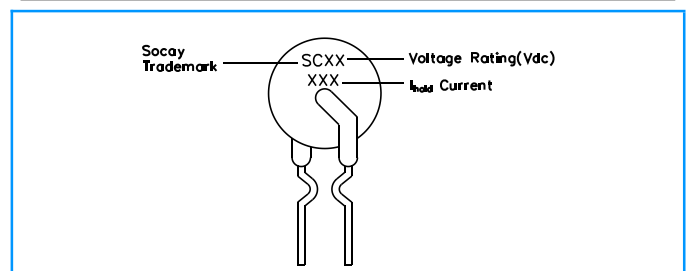


|                         |   |
|-------------------------|---|
| <b>Pre-Heating Zone</b> | Refer to the condition recommended by the manufacturer. Max. ramping rate should not exceed 4°C/Sec |
| <b>Soldering Zone</b>   | Max. solder temperature should not exceed 260°C   |
| <b>Cooling Zone</b>     | Cooling by natural convection in air  |

### Part Numbering



### Part Marking



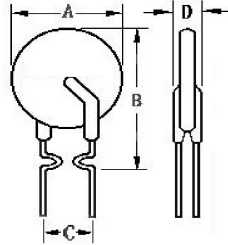
### Packaging and Storage

| Part Number | Quantity                   |
|-------------|----------------------------|
| SC6-050CW0A | 1000Pcs/Bag or 2000Pcs/Box |

## Radial Lead Resettable Polymer PTCs

**SC6-050CW0A**

### Dimensions



| Part Number | Dimensions (mm) |         |         |         | Lead Material     |
|-------------|-----------------|---------|---------|---------|-------------------|
|             | A (Max)         | B (Max) | C       | D (Max) | Tinned Metal (mm) |
| SC6-050CW0A | 6.0             | 11.3    | 5.1±0.5 | 3.0     | 24 AWG/Φ0.5       |