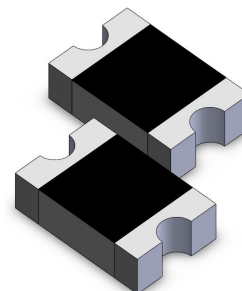


Surface Mount Resettable PTCs

SCF050-12-0805RB

Features

- ◆ RoHS Compliant & Halogen Free
- ◆ Faster tripping, 0805 Dimension, Surface mountable, Solid state
- ◆ Operation Current: 0.50A
- ◆ Maximum Voltage: 12.0Vdc
- ◆ Operating Temperature: -40°C ~ + 85°C
- ◆ Agency recognition: UL/CSA/TUV



Electrical Parameters

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Typical Power	Maximum Time To Trip		Resistance		
	I_{hold} (A)	I_{trip} (A)	V_{max} (Vdc)	I_{max} (A)	$P_{dtyp.}$ (W)	Current (A)	Time (Sec.)	R_{min} (Ω)	R_{typ} (Ω)	R_{1max} (Ω)
SCF050-12-0805RB	0.50	1.00	12.0	40	0.5	8.00	0.10	0.150	0.420	0.900

I_{hold} = Hold Current. Maximum current device will not trip in 25°C still air.

I_{trip} = Trip Current. Minimum current at which the device will always trip in 25°C still air.

V_{max} = Maximum operating voltage device can withstand without damage at rated current (I_{max}).

I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max}).

$P_{dtyp.}$ = Maximum power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

$R_{min/typ}$ = Minimum/Typical device resistance prior to tripping at 25°C.

R_{1max} = Maximum device resistance is measured one hour post reflow.

Test Conditions and Standards

Test Item	Test Condition	Standard
Initial Resistance	25°C	0.150~0.900 Ω
I_H	25°C, 0.50A, 60min	No trip
T_{trip}	25°C, 8.0A, 6.0V	$\leq 0.10s$
Trip Endurance	12.0V, 40A, 60min	No arcing or burning

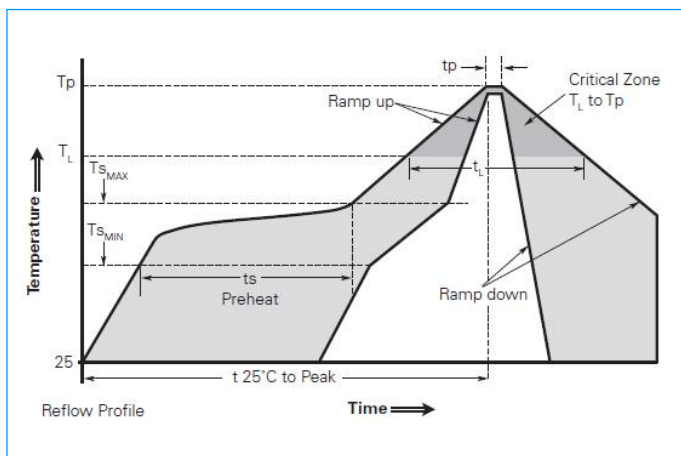
Physical Characteristics

Terminal Pad Materials	Tin-Plated Nickle-copper
Terminal Pad Solderability	Meets EIA specification RS 186-9E and ANSI/J-STD-002 Category 3.

Surface Mount Resettable PTCs

SCF050-12-0805RB

Soldering Parameters



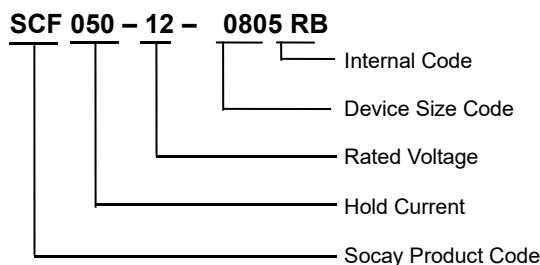
Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T_S max to T_P)	3°C/second max.
Preheat : Temperature Min (T_{Smin}) Temperature Max (T_{Smax}) Time (t_{Smin} to t_{Smax})	150°C 200°C 60-120 seconds
Time maintained above: Temperature(T_L) Time (t_L)	217°C 60-150 seconds
Peak/Classification Temperature(T_P)	260°C
Time within 5 °C of actual peak temperature: Time (t_P)	30 seconds max.
Ramp-down Rate	3°C/ second max.
Time 25°C to Peak Temperature	8 minutes max.

- Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment for lead-free.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25mm (0.010inch).
- Devices can be cleaned using standard industry methods and solvents.
- Soldering temperature profile meets RoHS leadfree process.

Note 1: All temperature refer to topside of the package,measured on the package body surface.

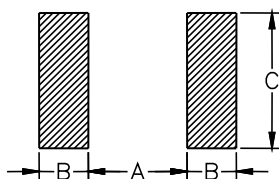
Note 2: If reflow temperature exceed the recommended profile,devices may not meet the performance requirements.

Part Numbering



Recommended Solder Pad Layout Dimensions (Unit: mm)

The dimension in the table below provide the recommended pad layout for each SCF050-12-0805RB device

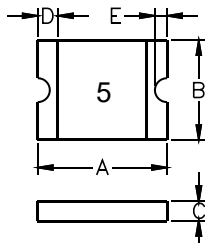


Device	A	B	C
0805 Series	1.2±0.1	1.0±0.1	1.5±0.1

Surface Mount Resettable PTCs

SCF050-12-0805RB

Product Dimensions (Unit: mm)



Part Number	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
SCF050-12-0805RB	2.00	2.20	1.20	1.50	0.60	1.20	0.20	0.10

Packaging Quantity

Part Number	Packaging Option	Quantity
SCF050-12-0805RB	Tape & Reel	4000 PCS

Warning



- ◆ Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame.
- ◆ PPTC device are intended for occasional over-current protection. Application for repeated over-current condition and/or prolonged trip are not anticipated.
- ◆ Avoid contact of PPTC device with chemical solvent. Prolonged contact will damage the device performance.