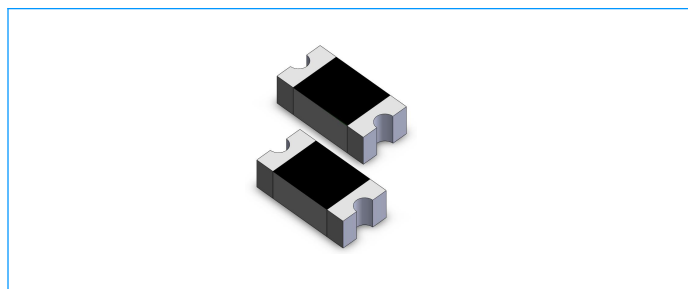


Surface Mount Resettable PTCs

SCF0603RZB Series

Features

- ◆ RoHS Compliant & Halogen Free
- ◆ Faster tripping, 0603 Dimension, Surface mountable, Solid state
- ◆ Operation Current: 0.35A ~ 3.0A
- ◆ Maximum Voltage: 6V
- ◆ Operating Temperature: -40°C ~ + 85°C



Electrical Characteristics

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_{1max} (Ω)
SCF035-0603RZB	0.35	0.70	6.0	50.0	0.5	8.0	0.1	0.150	1.000
SCF050-0603RZB	0.50	1.00	6.0	50.0	0.5	8.0	0.6	0.070	0.400
SCF075-0603RZB	0.75	1.50	6.0	50.0	0.5	8.0	1.0	0.055	0.250
SCF100-0603RZB	1.00	2.00	6.0	50.0	0.5	8.0	2.0	0.045	0.120
SCF125-0603RZB	1.25	2.50	6.0	50.0	0.5	8.0	3.0	0.035	0.100
SCF150-0603RZB	1.50	3.00	6.0	50.0	0.5	8.0	4.0	0.025	0.080
SCF175-0603RZB	1.75	3.50	6.0	50.0	0.5	8.0	5.0	0.015	0.070
SCF200-0603RZB	2.00	4.00	6.0	50.0	0.5	8.0	5.0	0.012	0.060
SCF260-0603RZB	2.60	5.20	6.0	50.0	0.5	8.0	5.0	0.008	0.050
SCF300-0603RZB	3.00	6.00	6.0	50.0	0.5	8.0	5.0	0.008	0.040

I_{hold} = Hold Current. Maximum current at which the device will not interrupt in 25 °C still air.

I_{trip} = Trip Current. Minimum current at which the device from low resistance to high resistance in 25 °C still air.

V_{max} = Maximum continuous voltage device can withstand without damage at rated current..

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

Maximum Time-to-trip: Maximum time to trip at assigned current.

$P_{dtyp.}$ = Typical power dissipation: Typical amount of power dissipated from the device when in 25 °C still air environment.

R_{min} = Minimum resistance of device at 25 °C prior to tripping.

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

Test Procedures and Requirements

Test Item	Test Conditions	Accept / Reject Criteria
Initial Resistance	In still air at 25°C	$R_{min} \leq R \leq R_{1max}$
Time to Ttrip	Specified current, V_{max} , 25°C	$T \leq$ Maximum Time to Trip
Holding Current	30min, at I_H , 25°C	No trip
Trip Cycle Life	V_{max} , I_{max} , 100 cycles	No arcing or burning
Trip Endurance	V_{max} , 1 hour	No arcing or burning

Surface Mount Resettable PTCs

SCF0603RZB Series

Physical Characteristics

Terminal Materials	Tin-Plated Nickel-copper
Soldering Zone	Meets EIA specification RS 186-9E and ANSI/J-STD-002 Category 3.
Moisture Sensitivity	Level 2a, per IPC/JEDEC J-STD 020C

Environmental Specifications

Test Item	Test Conditions	Resistance Change
Passive Aging	85°C, 1000 hours	±10% typical
Humidity Aging	85°C/85%RH, 100 hours	±5% typical
Thermal Shock	MIL-STD-202, Method 107G +85°C/-40°C, 20 times	-30% typical
Solvent Resistance	MIL-STD-202, Method 215	No change
Vibration	ML-STD-883C, Test Condition A	No change

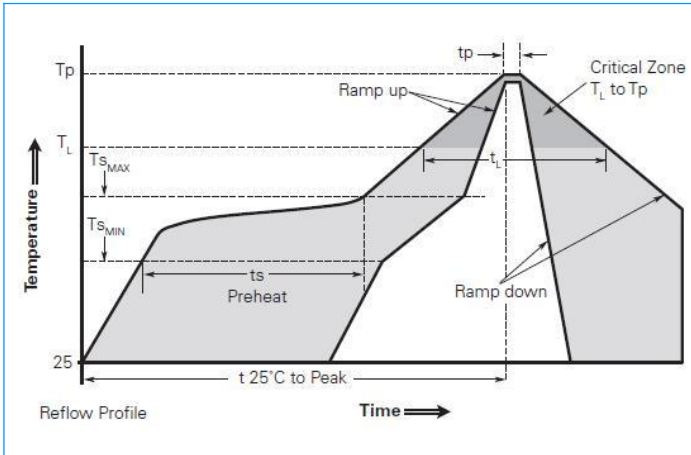
Thermal Derating Chart - I_H (A)

Model	Maximum ambient operating temperature (°C)								
	-40	-20	0	25	40	50	60	70	85
SCF035-0603RZB	0.46	0.40	0.37	0.35	0.29	0.25	0.24	0.20	0.14
SCF050-0603RZB	0.66	0.57	0.53	0.50	0.41	0.36	0.34	0.28	0.21
SCF075-0603RZB	0.99	0.85	0.79	0.75	0.61	0.44	0.30	0.17	0.07
SCF100-0603RZB	1.32	1.14	1.05	1.00	0.82	0.73	0.69	0.56	0.41
SCF125-0603RZB	1.96	1.49	1.31	1.25	1.02	0.91	0.86	0.70	0.51
SCF150-0603RZB	2.35	1.79	1.58	1.50	1.22	1.09	1.03	0.84	0.62
SCF175-0603RZB	2.30	1.99	1.84	1.75	1.43	1.27	1.20	0.98	0.72
SCF200-0603RZB	2.63	2.27	2.10	2.00	1.63	1.45	1.37	1.12	0.82
SCF260-0603RZB	3.42	2.95	2.73	2.60	2.12	1.89	1.78	1.46	1.07
SCF300-0603RZB	3.95	3.41	3.15	3.00	2.45	2.18	2.06	1.68	1.23

Surface Mount Resettable PTCs

SCF0603RZB Series

Soldering Parameters



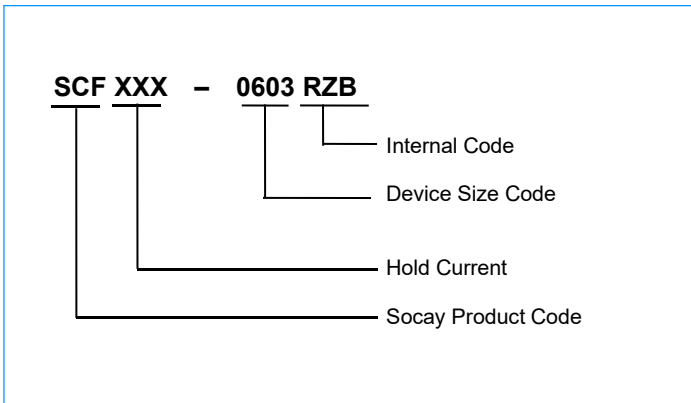
Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Ts max to Tp)	3°C/second max.
Preheat : Temperature Min (Tsmin) Temperature Max (Tsmax) Time (Tsmin to Tsmax)	150°C 200°C 60-120 seconds
Time maintained above: Temperature(TL) Time (TL)	217°C 60-150 seconds
Peak/Classification Temperature(TP)	260°C
Time within 5 °C of actual peak temperature: Time (Tp)	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

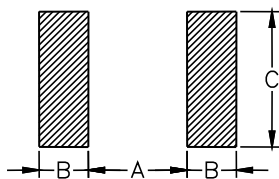


Example

D= SCF035-0603RZB	C= SCF150-0603RZB
D= SCF050-0603RZB	C= SCF175-0603RZB
D= SCF075-0603RZB	C= SCF200-0603RZB
B= SCF100-0603RZB	E= SCF260-0603RZB
B= SCF125-0603RZB	E= SCF300-0603RZB

Recommended Solder Pad Layout Dimensions (Unit: mm)

The dimension in the table below provide the recommended pad layout for each SCF0603RZB device

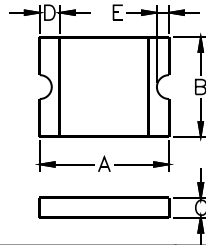


Device	A	B	C
	Nominal	Nominal	Nominal
0603 Series	0.80	1.00	1.00

Surface Mount Resettable PTCs

SCF0603RZB Series

Product Dimensions (Unit: mm)



Part Number	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
SCF035-0603RZB	1.45	1.85	0.65	1.05	0.3	0.7	0.15	0.1
SCF050-0603RZB	1.45	1.85	0.65	1.05	0.3	0.7	0.15	0.1
SCF075-0603RZB	1.45	1.85	0.65	1.05	0.3	0.7	0.15	0.1
SCF100-0603RZB	1.45	1.85	0.65	1.05	0.4	1.0	0.15	0.1
SCF125-0603RZB	1.45	1.85	0.65	1.05	0.4	1.0	0.15	0.1
SCF150-0603RZB	1.45	1.85	0.65	1.05	0.5	1.2	0.15	0.1
SCF175-0603RZB	1.45	1.85	0.65	1.05	0.5	1.2	0.15	0.1
SCF200-0603RZB	1.45	1.85	0.65	1.05	0.7	1.4	0.15	0.1
SCF260-0603RZB	1.45	1.85	0.65	1.05	0.7	1.4	0.15	0.1
SCF300-0603RZB	1.45	1.85	0.65	1.05	0.7	1.4	0.15	0.1

Packaging Quantity

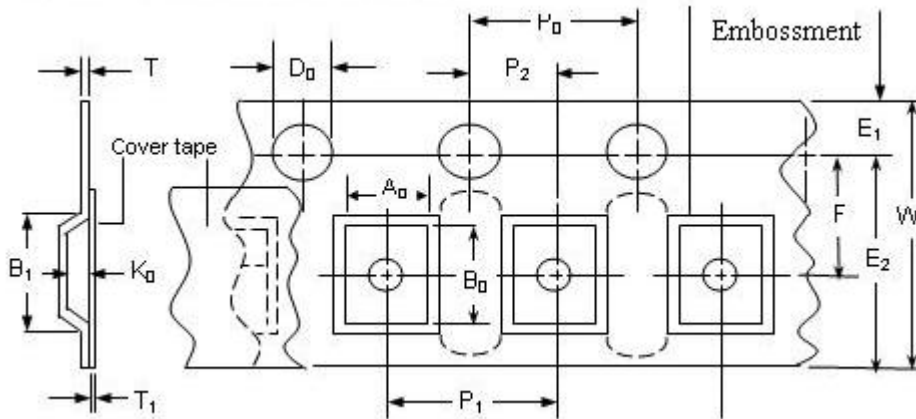
Part Number	Quantity	Part Number	Quantity
SCF035-0603RZB	5000 PCS	SCF150-0603RZB	4000 PCS
SCF050-0603RZB	5000 PCS	SCF175-0603RZB	4000 PCS
SCF075-0603RZB	5000 PCS	SCF200-0603RZB	4000 PCS
SCF100-0603RZB	4000 PCS	SCF260-0603RZB	4000 PCS
SCF125-0603RZB	4000 PCS	SCF300-0603RZB	4000 PCS

Surface Mount Resettable PTCs

SCF0603RZB Series

Tape Specifications and Reel Specifications (Unit: mm)

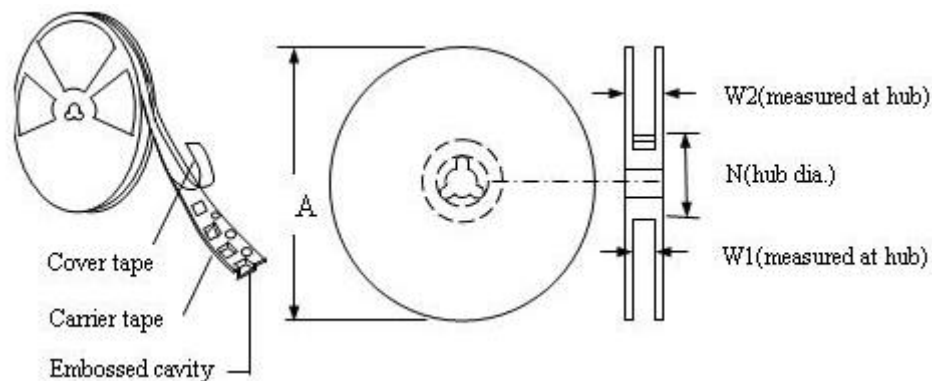
EIA Tape Component Dimensions



Symbol	Dimensions
W	8.00± 0.10
P₀	4.0±0.10
P₁	4.0±0.10
P₂	2.0±0.05
A₀	0.95±0.10
B₀	1.85±0.05
D₀	1.55±0.05
F	3.50±0.05
E₁	1.75±0.10
T	0.20±0.02
Leader min.	390
Trailer min.	160

Tape Specifications and Reel Specifications (Unit: mm) (Continue)

EIA Reel Dimensions



Symbol	Dimensions
A	178±1.0
N	59±1.0
W1	8.5+1.0/-0.2
W2	12.0±1.0

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.