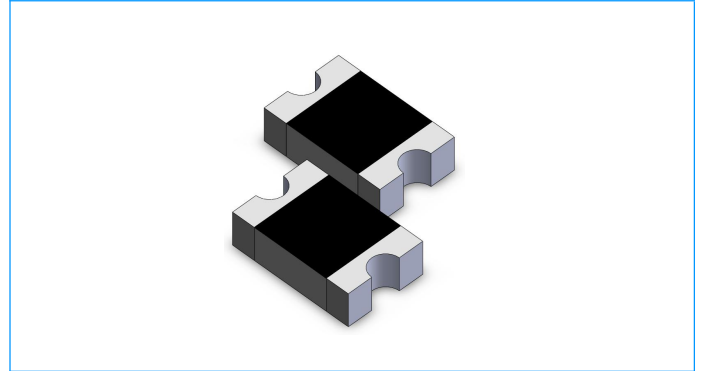


Surface Mount Resettable PTCs

SCF1210RZB Series

Features

- ◆ RoHS Compliant and Halogen Free
- ◆ Faster tripping, 1210 Dimension, Surface mountable, Solid state
- ◆ Operating Current: 1.5A~7.5A, @25°C
- ◆ Maximum Voltage: 6V/12V
- ◆ Operating Temperature: -40°C~ +85°C



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_{1max} (Ω)
SCF150-1210RZB	1.5	3.0	6.0	50.0	0.8	8.0	2.0	0.010	0.060
SCF150-12-1210RZB	1.5	3.0	12.0	50.0	0.8	8.0	2.0	0.010	0.060
SCF175-1210RZB	1.75	3.5	6.0	50.0	0.8	8.0	2.0	0.010	0.040
SCF175-12-1210RZB	1.75	3.5	12.0	50.0	0.8	8.0	2.0	0.010	0.040
SCF190-1210RZB	1.9	3.8	6.0	50.0	0.8	8.0	3.0	0.006	0.037
SCF190-12-1210RZB	1.9	3.8	12.0	50.0	0.8	8.0	3.0	0.006	0.037
SCF200-1210RZB	2.0	4.0	6.0	50.0	0.8	8.0	3.0	0.006	0.035
SCF200-12-1210RZB	2.0	4.0	12.0	50.0	0.8	8.0	3.0	0.006	0.035
SCF260-1210RZB	2.6	5.2	6.0	50.0	0.8	13.0	2.0	0.003	0.025
SCF260-12-1210RZB	2.6	5.2	12.0	50.0	0.8	13.0	2.0	0.003	0.025
SCF300-1210RZB	3.0	6.0	6.0	50.0	0.8	15.0	2.0	0.003	0.002
SCF300-12-1210RZB	3.0	6.0	12.0	50.0	0.8	15.0	2.0	0.003	0.002
SCF350-1210RZB	3.5	7.0	6.0	50.0	0.8	17.5	2.0	0.002	0.018
SCF350-12-1210RZB	3.5	7.0	12.0	50.0	0.8	17.5	2.0	0.002	0.018
SCF380-1210RZB	3.8	7.6	6.0	50.0	0.8	19.0	2.0	0.002	0.016
SCF380-12-1210RZB	3.8	7.6	12.0	50.0	0.8	19.0	2.0	0.002	0.016
SCF400-1210RZB	4.0	8.0	6.0	50.0	0.8	20.0	2.0	0.002	0.014
SCF400-12-1210RZB	4.0	8.0	12.0	50.0	0.8	20.0	2.0	0.002	0.014
SCF450-1210RZB	4.5	9.0	6.0	50.0	1.0	22.5	2.0	0.001	0.013
SCF450-12-1210RZB	4.5	9.0	12.0	50.0	1.0	22.5	2.0	0.001	0.013
SCF500-1210RZB	5.0	10.0	6.0	50.0	1.0	25.0	2.0	0.001	0.012
SCF500-12-1210RZB	5.0	10.0	12.0	50.0	1.0	25.0	2.0	0.001	0.012
SCF550-1210RZB	5.5	11.0	6.0	50.0	1.0	27.5	2.0	0.001	0.011

Surface Mount Resettable PTCs

SCF1210RZB Series

SCF550-12-1210RZB	5.5	11.0	12.0	50.0	1.0	27.5	2.0	0.001	0.011
SCF600-1210RZB	6.0	12.0	6.0	50.0	1.2	30.0	2.0	0.001	0.010
SCF600-12-1210RZB	6.0	12.0	12.0	50.0	1.2	30.0	2.0	0.001	0.010
SCF650-1210RZB	6.5	13.0	6.0	50.0	1.2	32.5	2.0	0.001	0.009
SCF650-12-1210RZB	6.5	13.0	12.0	50.0	1.2	32.5	2.0	0.001	0.009
SCF700-1210RZB	7.0	14.0	6.0	50.0	1.2	35.0	2.0	0.001	0.008
SCF700-12-1210RZB	7.0	14.0	12.0	50.0	1.2	35.0	2.0	0.001	0.008
SCF750-1210RZB	7.5	15.0	6.0	50.0	1.2	37.5	2.0	0.001	0.007
SCF750-12-1210RZB	7.5	15.0	12.0	50.0	1.2	37.5	2.0	0.001	0.007

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.

Thermal Derating Chart - I_H (A)

Model	Maximum ambient operating temperature (°C)								
	-40	-20	0	25	40	50	60	70	85
SCF150-1210RZB	2.25	2.00	1.75	1.50	1.33	1.15	1.05	0.93	0.70
SCF150-12-1210RZB	2.25	2.00	1.75	1.50	1.33	1.15	1.05	0.93	0.70
SCF175-1210RZB	2.55	2.33	2.02	1.75	1.53	1.35	1.23	1.07	0.85
SCF175-12-1210RZB	2.55	2.33	2.02	1.75	1.53	1.35	1.23	1.07	0.85
SCF190-1210RZB	2.81	2.53	2.20	1.90	1.67	1.47	1.34	1.17	0.91
SCF190-12-1210RZB	2.81	2.53	2.20	1.90	1.67	1.47	1.34	1.17	0.91
SCF200-1210RZB	2.96	2.67	2.32	2.00	1.76	1.55	1.41	1.23	0.96
SCF200-12-1210RZB	2.96	2.67	2.32	2.00	1.76	1.55	1.41	1.23	0.96
SCF260-1210RZB	3.85	3.47	3.02	2.60	2.29	2.01	1.84	1.59	1.25
SCF260-12-1210RZB	3.85	3.47	3.02	2.60	2.29	2.01	1.84	1.59	1.25
SCF300-1210RZB	4.44	4.00	3.48	3.00	2.64	2.32	2.12	1.84	1.44
SCF300-12-1210RZB	4.44	4.00	3.48	3.00	2.64	2.32	2.12	1.84	1.44

Surface Mount Resettable PTCs

SCF1210RZB Series

SCF350-1210RZB	5.18	4.67	4.06	3.50	3.08	2.71	2.47	2.15	1.68
SCF350-12-1210RZB	5.18	4.67	4.06	3.50	3.08	2.71	2.47	2.15	1.68
SCF380-1210RZB	5.62	5.07	4.41	3.80	3.34	2.94	2.68	2.33	1.82
SCF380-12-1210RZB	5.62	5.07	4.41	3.80	3.34	2.94	2.68	2.33	1.82
SCF400-1210RZB	5.92	5.33	4.64	4.00	3.52	3.09	2.83	2.45	1.92
SCF400-12-1210RZB	5.92	5.33	4.64	4.00	3.52	3.09	2.83	2.45	1.92
SCF450-1210RZB	6.66	6.00	5.22	4.50	3.96	3.48	3.17	2.76	2.16
SCF450-12-1210RZB	6.66	6.00	5.22	4.50	3.96	3.48	3.17	2.76	2.16
SCF500-1210RZB	7.40	6.67	5.80	5.00	4.40	3.87	3.53	3.07	2.40
SCF500-12-1210RZB	7.40	6.67	5.80	5.00	4.40	3.87	3.53	3.07	2.40
SCF550-1210RZB	8.14	7.34	6.38	5.50	4.84	4.26	3.88	3.38	2.64
SCF550-12-1210RZB	8.14	7.34	6.38	5.50	4.84	4.26	3.88	3.38	2.64
SCF600-1210RZB	8.65	7.91	6.93	6.00	5.23	4.45	4.00	3.63	2.85
SCF600-12-1210RZB	8.65	7.91	6.93	6.00	5.23	4.45	4.00	3.63	2.85
SCF650-1210RZB	9.20	8.45	7.45	6.50	5.60	4.65	4.30	3.89	3.00
SCF650-12-1210RZB	9.20	8.45	7.45	6.50	5.60	4.65	4.30	3.89	3.00
SCF700-1210RZB	9.84	9.00	7.95	7.00	5.96	4.95	4.50	4.16	3.20
SCF700-12-1210RZB	9.84	9.00	7.95	7.00	5.96	4.95	4.50	4.16	3.20
SCF750-1210RZB	10.5	9.65	8.50	7.50	6.40	5.30	4.80	4.45	4.42
SCF750-12-1210RZB	10.5	9.65	8.50	7.50	6.40	5.30	4.80	4.45	4.42

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 Trip	Specified current, V_{MAX} , 25°C	$T \leq$ Maximum Time to Trip
Holding Current	30min, at I_H , 25°C	No trip
Trip Endurance	V_{MAX} , I_{MAX} , 1 hour	No arcing or burning

Surface Mount Resettable PTCs

SCF1210RZB Series

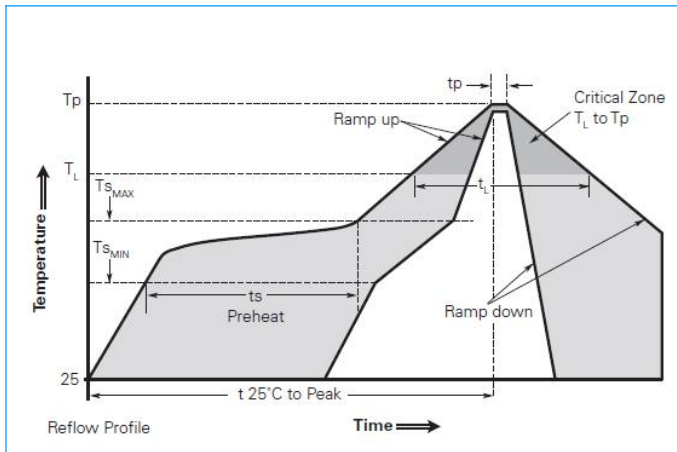
Physical Characteristics

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, Method Test Condition A	No change

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.

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

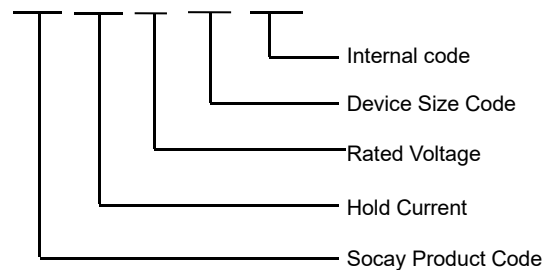
Note 2: If reflow temperature exceed the recommended profile, devices may not meet the performance requirements.

Surface Mount Resettable PTCs

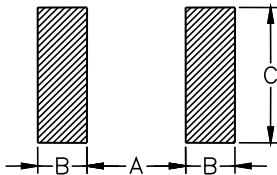
SCF1210RZB Series

Part Numbering

SCF 150 -12 - 1210 RZB

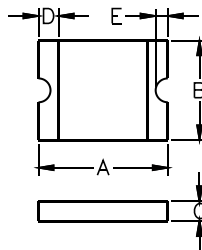


Recommended Solder Pad Layout Dimensions (Unit: mm)



Device	A	B	C
	Nominal	Nominal	Nominal
1210RZB Series	2.00	1.00	2.50

Product Dimensions (Unit: mm)



Part Number	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
SCF150-1210RZB	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
SCF150-12-1210RZB	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
SCF175-1210RZB	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
SCF175-12-1210RZB	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
SCF190-1210RZB	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
SCF190-12-1210RZB	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1

Surface Mount Resettable PTCs

SCF1210RZB Series

SCF200-1210RZB	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
SCF200-12-1210RZB	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
SCF260-1210RZB	3.0	3.43	2.35	2.8	0.4	1.0	0.25	0.1
SCF260-12-1210RZB	3.0	3.43	2.35	2.8	0.4	1.0	0.25	0.1
SCF300-1210RZB	3.0	3.43	2.35	2.8	0.4	1.0	0.25	0.1
SCF300-12-1210RZB	3.0	3.43	2.35	2.8	0.4	1.0	0.25	0.1
SCF350-1210RZB	3.0	3.43	2.35	2.8	0.4	1.2	0.25	0.1
SCF350-12-1210RZB	3.0	3.43	2.35	2.8	0.4	1.2	0.25	0.1
SCF380-1210RZB	3.0	3.43	2.35	2.8	0.4	1.2	0.25	0.1
SCF380-12-1210RZB	3.0	3.43	2.35	2.8	0.4	1.2	0.25	0.1
SCF400-1210RZB	3.0	3.43	2.35	2.8	0.5	1.2	0.25	0.1
SCF400-12-1210RZB	3.0	3.43	2.35	2.8	0.5	1.2	0.25	0.1
SCF450-1210RZB	3.0	3.43	2.35	2.8	0.5	1.4	0.25	0.1
SCF450-12-1210RZB	3.0	3.43	2.35	2.8	0.5	1.4	0.25	0.1
SCF500-1210RZB	3.0	3.43	2.35	2.8	0.5	1.4	0.25	0.1
SCF500-12-1210RZB	3.0	3.43	2.35	2.8	0.5	1.4	0.25	0.1
SCF550-1210RZB	3.0	3.43	2.35	2.8	0.5	1.4	0.25	0.1
SCF550-12-1210RZB	3.0	3.43	2.35	2.8	0.5	1.4	0.25	0.1
SCF600-1210RZB	3.0	3.43	2.35	2.8	0.5	1.6	0.25	0.1
SCF600-12-1210RZB	3.0	3.43	2.35	2.8	0.5	1.6	0.25	0.1
SCF650-1210RZB	3.0	3.43	2.35	2.8	0.5	1.6	0.25	0.1
SCF650-12-1210RZB	3.0	3.43	2.35	2.8	0.5	1.6	0.25	0.1
SCF700-1210RZB	3.0	3.43	2.35	2.8	0.5	1.6	0.25	0.1
SCF700-12-1210RZB	3.0	3.43	2.35	2.8	0.5	1.6	0.25	0.1
SCF750-1210RZB	3.0	3.43	2.35	2.8	0.5	1.6	0.25	0.1
SCF750-12-1210RZB	3.0	3.43	2.35	2.8	0.5	1.6	0.25	0.1

Surface Mount Resettable PTCs

SCF1210RZB Series

Packaging Quantity

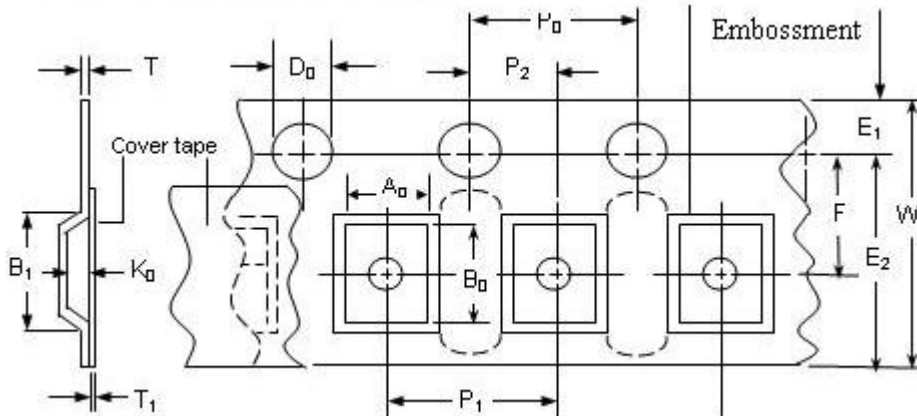
Part Number	Quantity	Part Number	Quantity
SCF150-1210RZB	4000 PCS	SCF400-1210RZB	4000 PCS
SCF150-12-1210RZB	4000 PCS	SCF400-12-1210RZB	4000 PCS
SCF175-1210RZB	4000 PCS	SCF450-1210RZB	4000 PCS
SCF175-12-1210RZB	4000 PCS	SCF450-12-1210RZB	4000 PCS
SCF190-1210RZB	4000 PCS	SCF500-1210RZB	3000 PCS
SCF190-12-1210RZB	4000 PCS	SCF500-12-1210RZB	3000 PCS
SCF200-1210RZB	4000 PCS	SCF550-1210RZB	3000 PCS
SCF200-12-1210RZB	4000 PCS	SCF550-12-1210RZB	3000 PCS
SCF260-1210RZB	4000 PCS	SCF600-1210RZB	3000 PCS
SCF260-12-1210RZB	4000 PCS	SCF600-12-1210RZB	3000 PCS
SCF300-1210RZB	4000 PCS	SCF650-1210RZB	3000 PCS
SCF300-12-1210RZB	4000 PCS	SCF650-12-1210RZB	3000 PCS
SCF350-1210RZB	4000 PCS	SCF700-1210RZB	3000 PCS
SCF350-12-1210RZB	4000 PCS	SCF700-12-1210RZB	3000 PCS
SCF380-1210RZB	4000 PCS	SCF750-1210RZB	3000 PCS
SCF380-12-1210RZB	4000 PCS	SCF750-12-1210RZB	3000 PCS

Surface Mount Resettable PTCs

SCF1210RZB Series

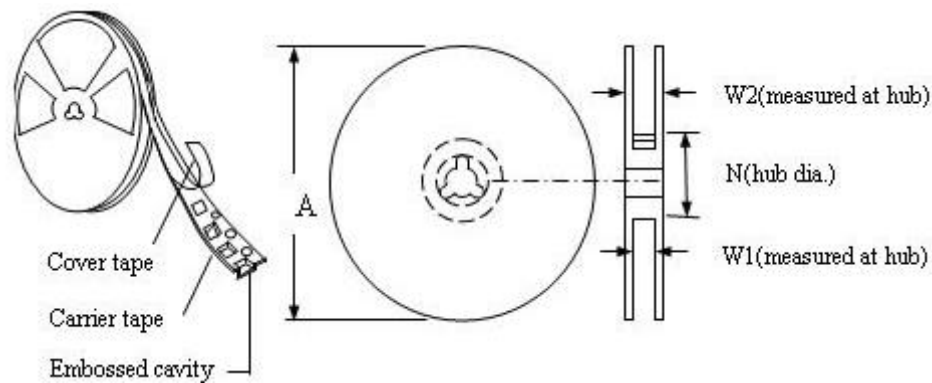
Tape Specifications and Reel Specifications (Unit: mm)

Tape Component Dimensions



Symbol	Dimensions
W	8.0±0.3
P₀	4.0±0.10
P₁	4.0±0.10
P₂	2.0±0.05
A₀	2.82±0.10
B₀	3.46±0.10
D₀	1.55±0.05
F	3.50±0.05
E₁	1.75±0.10
T	0.25±0.10
Leader min.	390
Trailer min.	160

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.