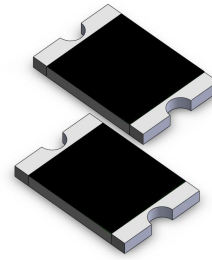


Surface Mount Resettable PTCs

SCF2920RB Series

Features

- ◆ RoHS Compliant & Halogen Free
- ◆ Faster tripping, 2920 Dimension, Surface mountable, Solid state
- ◆ Operation Current: 0.30A ~ 6.00A
- ◆ Maximum Voltage: 6V ~ 60Vdc
- ◆ 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)
SCF030-2920RB	0.30	0.60	60.0	100	1.5	1.50	3.00	0.60	4.80
SCF050-2920RB	0.50	1.00	60.0	100	1.5	2.50	4.00	0.18	1.40
SCF075-2920RB	0.75	1.50	33.0	100	1.5	8.00	0.30	0.10	1.00
SCF075-60-2920RB	0.75	1.50	60.0	40	1.5	8.00	0.30	0.10	1.00
SCF100-2920RB	1.00	2.20	33.0	100	1.5	8.00	0.50	0.065	0.41
SCF100-60-2920RB	1.00	2.20	60.0	100	1.5	8.00	0.50	0.065	0.41
SCF125-2920RB	1.25	2.50	33.0	100	1.5	8.00	2.00	0.05	0.25
SCF150-2920RB	1.50	3.00	33.0	100	1.5	8.00	2.00	0.035	0.23
SCF185-2920RB	1.85	3.70	33.0	100	1.5	8.00	2.50	0.030	0.15
SCF200-2920RB	2.00	4.00	16.0	100	1.5	8.00	4.50	0.020	0.12
SCF200-24-2920RB	2.00	4.00	24.0	100	1.5	8.00	4.50	0.020	0.12
SCF250-2920RB	2.50	5.00	16.0	100	1.5	8.00	16.0	0.020	0.085
SCF260-2920RB	2.60	5.20	16.0	100	1.5	8.00	10.0	0.014	0.075
SCF260-24-2920RB	2.60	5.20	24.0	100	1.5	8.00	18.0	0.014	0.075
SCF300-2920RB	3.00	6.00	6.0	100	1.5	8.00	20.0	0.012	0.048
SCF300-16-2920RB	3.00	6.00	16.0	100	1.5	8.00	20.0	0.012	0.048
SCF400-16-2920RB	4.00	8.00	16.0	40	1.5	20.0	4.00	0.008	0.040
SCF500-16-2920RB	5.00	10.00	16.0	40	1.5	25.0	5.00	0.005	0.031
SCF600-12-2920RB	6.00	12.0	12.0	40	1.5	25.0	6.00	0.004	0.020

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} = Minimum device resistance prior to tripping at 25°C.

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

Surface Mount Resettable PTCs

SCF2920RB Series

Test Procedures and Requirements

Test Item	Test Conditions	Accept / Reject Criteria
Resistance	In still air @ 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	No trip
Trip Cycle Life	V_{max} , I_{max} , 100cycles	No arcing or burning
Trip Endurance	V_{max} , 1 hour	No arcing or burning

Physical Characteristics

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

Environmental Specifications

Test Item	Test Conditions	Resistance Change
Passive Aging	85°C, 1000 hours	±10%
Humidity Aging	85°C/85%RH. 168 hours	±5%
Thermal Shock	MIL-STD-202, Method 107G +85°C/-40°C, 20 times	±33% typical resistance change
Solvent Resistance	MIL-STD-202, Method 215	No change
Vibration	ML-STD-883C, Test Condition A	No change

Thermal Derating Chart - I_H (A)

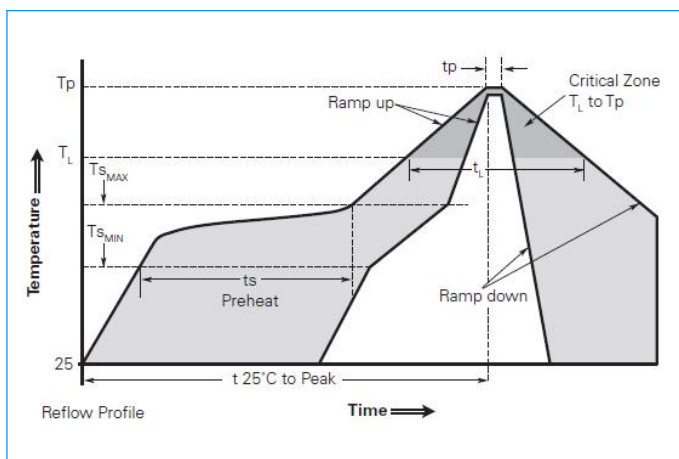
Model	Maximum ambient operating temperature (°C)								
	-40	-20	0	25	40	50	60	70	85
SCF030-2920RB	0.44	0.37	0.35	0.30	0.28	0.23	0.20	0.18	0.14
SCF050-2920RB	0.73	0.62	0.59	0.50	0.47	0.38	0.34	0.30	0.24
SCF075-2920RB	1.09	0.92	0.88	0.75	0.70	0.56	0.50	0.45	0.36
SCF075-60-2920RB	1.09	0.92	0.88	0.75	0.70	0.56	0.50	0.45	0.36
SCF100-2920RB	1.45	1.23	1.17	1.00	0.93	0.75	0.67	0.60	0.48
SCF100-60-2920RB	1.45	1.23	1.17	1.00	0.93	0.75	0.67	0.60	0.48
SCF125-2920RB	1.81	1.54	1.46	1.25	1.16	0.94	0.84	0.75	0.60
SCF150-2920RB	2.18	1.85	1.76	1.50	1.40	1.13	1.01	0.90	0.72
SCF185-2920RB	2.68	2.28	2.16	1.85	1.72	1.39	1.24	1.11	0.89
SCF200-2920RB	2.90	2.46	2.34	2.00	1.86	1.50	1.34	1.20	0.96
SCF200-24-2920RB	2.90	2.46	2.34	2.00	1.86	1.50	1.34	1.20	0.96
SCF250-2920RB	3.63	3.08	2.93	2.50	2.33	1.88	1.68	1.50	1.20
SCF260-2920RB	3.77	3.20	3.04	2.60	2.42	1.95	1.74	1.56	1.25
SCF260-24-2920RB	3.77	3.20	3.04	2.60	2.42	1.95	1.74	1.56	1.25
SCF300-2920RB	4.35	3.69	3.51	3.00	2.79	2.25	2.01	1.80	1.44

Surface Mount Resettable PTCs

SCF2920RB Series

Model	Maximum ambient operating temperature (°C)								
	-40	-20	0	25	40	50	60	70	85
SCF300-16-2920RB	4.35	3.69	3.51	3.00	2.79	2.25	2.01	1.80	1.44
SCF400-16-2920RB	5.80	4.92	4.68	4.00	3.72	3.00	2.68	2.40	1.92
SCF500-16-2920RB	7.25	6.15	5.85	5.00	4.65	3.75	3.35	3.0	2.4
SCF600-12-2920RB	8.7	7.38	7.02	6.00	5.58	4.5	4.02	3.6	2.88

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.

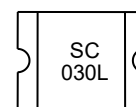
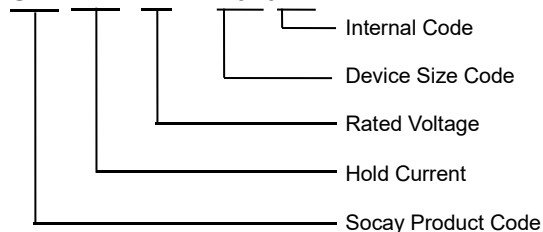
- Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment for lead-free.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25mm (0.010inch).
- Devices can be cleaned using standard industry methods and solvents.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

SCF XXX – XX – 2920 RB



Example

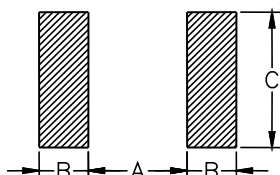
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SC050L= SCF050-2920RB	SC250L= SCF250-2920RB
SC075L= SCF075-2920RB	SC260L= SCF260-2920RB
SC075L= SCF075-60-2920RB	SC260L= SCF260-24-2920RB
SC100L= SCF100-2920RB	SC300L= SCF300-2920RB
SC100L= SCF100-60-2920RB	SC300L= SCF300-16-2920RB
SC125L= SCF125-2920RB	SC400L= SCF400-16-2920RB
SC150L= SCF150-2920RB	SC500L= SCF500-16-2920RB
SC185L= SCF185-2920RB	SC600L= SCF600-12-2920RB
SC200L= SCF200-2920RB	

Surface Mount Resettable PTCs

SCF2920RB Series

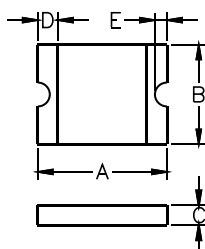
Recommended Solder Pad Layout Dimensions (Unit: mm)

The dimension in the table below provide the recommended pad layout for each SCF2920RB Series device



Device	A	B	C
2920 Series	5.1 ± 0.1	2.3 ± 0.1	5.6 ± 0.1

Product Dimensions (Unit: mm)



Part Number	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
SCF030-2920RB	6.73	7.98	4.80	5.44	0.60	1.15	0.30	0.15
SCF050-2920RB	6.73	7.98	4.80	5.44	0.60	1.15	0.30	0.15
SCF075-2920RB	6.73	7.98	4.80	5.44	0.60	1.15	0.30	0.15
SCF075-60-2920RB	6.73	7.98	4.80	5.44	0.80	1.60	0.30	0.15
SCF100-2920RB	6.73	7.98	4.80	5.44	0.60	1.00	0.30	0.15
SCF100-60-2920RB	6.73	7.98	4.80	5.44	0.70	1.50	0.30	0.15
SCF125-2920RB	6.73	7.98	4.80	5.44	0.60	1.00	0.30	0.15
SCF150-2920RB	6.73	7.98	4.80	5.44	0.60	1.20	0.30	0.15
SCF185-2920RB	6.73	7.98	4.80	5.44	0.60	1.20	0.30	0.15
SCF200-2920RB	6.73	7.98	4.80	5.44	0.40	0.80	0.30	0.15
SCF200-24-2920RB	6.73	7.98	4.80	5.44	0.60	1.20	0.30	0.15
SCF250-2920RB	6.73	7.98	4.80	5.44	0.40	0.80	0.30	0.15
SCF260-2920RB	6.73	7.98	4.80	5.44	0.40	0.80	0.30	0.15
SCF260-24-2920RB	6.73	7.98	4.80	5.44	0.40	1.20	0.30	0.15
SCF300-2920RB	6.73	7.98	4.80	5.44	0.40	0.80	0.30	0.15
SCF300-16-2920RB	6.73	7.98	4.80	5.44	0.60	1.20	0.30	0.15
SCF400-16-2920RB	6.73	7.98	4.80	5.44	0.60	1.20	0.30	0.15
SCF500-16-2920RB	6.73	7.98	4.80	5.44	0.70	1.50	0.30	0.15
SCF600-12-2920RB	6.73	7.98	4.80	5.44	0.70	1.50	0.30	0.15

Surface Mount Resettable PTCs

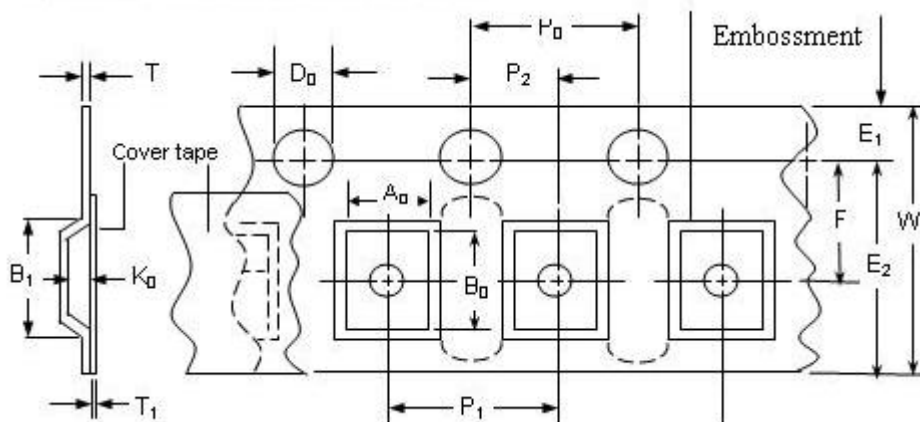
SCF2920RB Series

Packaging Quantity

Part Number	Quantity	Part Number	Quantity
SCF030-2920RB	2000 PCS	SCF200-24-2920RB	1500 PCS
SCF050-2920RB	2000 PCS	SCF250-2920RB	2000 PCS
SCF075-2920RB	2000 PCS	SCF260-2920RB	2000 PCS
SCF075-60-2920RB	1500 PCS	SCF260-24-2920RB	1500 PCS
SCF100-2920RB	2000 PCS	SCF300-2920RB	2000 PCS
SCF100-60-2920RB	1500 PCS	SCF300-16-2920RB	1500 PCS
SCF125-2920RB	2000 PCS	SCF400-16-2920RB	1500 PCS
SCF150-2920RB	2000 PCS	SCF500-16-2920RB	1500 PCS
SCF185-2920RB	1500 PCS	SCF600-12-2920RB	1500 PCS
SCF200-2920RB	2000 PCS		

Tape Specifications (Unit: mm)

EIA Tape Component Dimensions



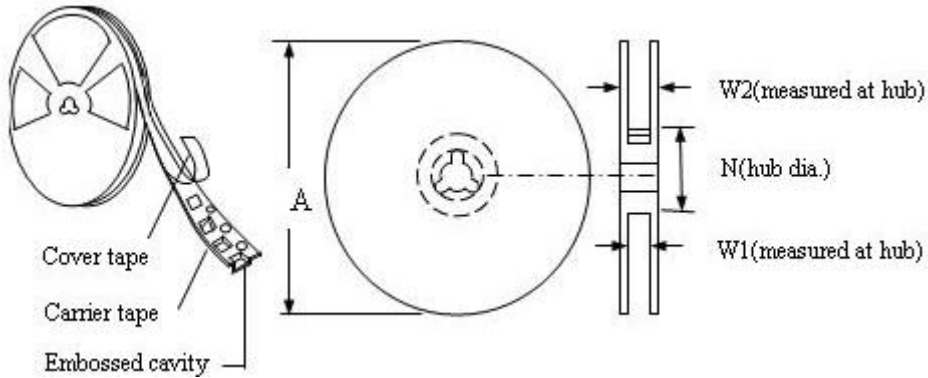
Symbol	Dimensions
W	16.00±0.30
P₀	4.00±0.10
P₁	8.00±0.10
P₂	2.00±0.10
A₀	5.74±0.10
B₀	8.02±0.10
D₀	1.55±0.05
F	7.50±0.10
E₁	1.75±0.10
T	0.20±0.10
Leader min.	390
Trailer min.	160

Surface Mount Resettable PTCs

SCF2920RB Series

Reel Specifications (Unit: mm)

Reel Dimensions



Symbol	Dimensions
A	178±1.0
N	58±1.0
W1	16.9±0.80
W2	19.3±0.10

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.