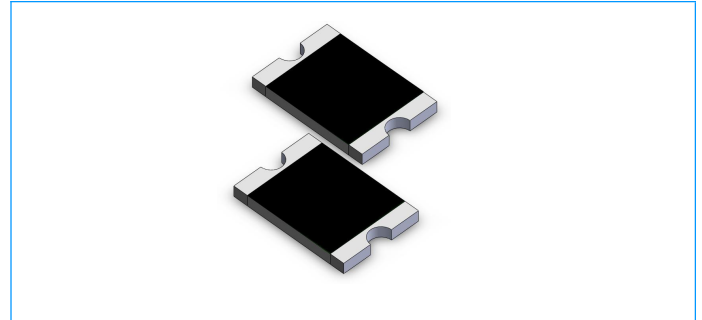


## Surface Mount Resettable PTCs

### 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.)	$R_{min}$ ( $\Omega$ )	$R_{1max}$ ( $\Omega$ )
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
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 Nickel-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)

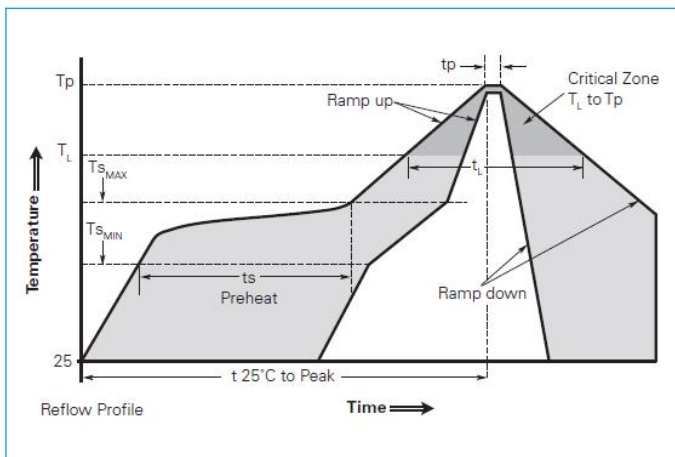
Model	Maximum ambient operating temperature (°C)								
	-40	-20	0	25	40	50	60	70	85
SCF030-2920RB	0.44	0.37	0.35	0.30	0.28	0.23	0.20	0.18	0.14
SCF050-2920RB	0.73	0.62	0.59	0.50	0.47	0.38	0.34	0.30	0.24
SCF075-2920RB	1.09	0.92	0.88	0.75	0.70	0.56	0.50	0.45	0.36
SCF075-60-2920RB	1.09	0.92	0.88	0.75	0.70	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
SCF300-2920RB	4.35	3.69	3.51	3.00	2.79	2.25	2.01	1.80	1.44
SCF300-16-2920RB	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
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 ( $T_s$ 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.

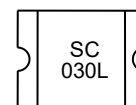
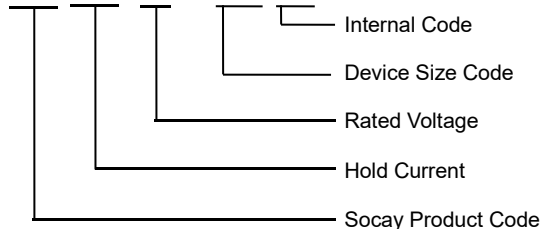
- Recommended reflow methods:  $I_R$ , vapor phase oven, hot air oven, N2 environment for lead-free.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25mm (0.010inch).
- Devices can be cleaned using standard industry methods and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

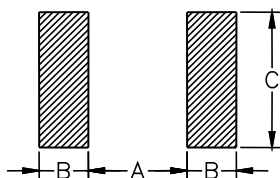
SC030L= SCF030-2920RB	SC200L= SCF200-2920RB
SC050L= SCF050-2920RB	SC200L= SCF200-24-2920RB
SC075L= SCF075-2920RB	SC250L= SCF250-2920RB
SC075L= SCF075-60-2920RB	SC260L= SCF260-2920RB
SC100L= SCF100-2920RB	SC300L= SCF300-2920RB
SC100L= SCF100-60-2920RB	SC300L= SCF300-16-2920RB
SC125L= SCF125-2920RB	SC400L= SCF400-16-2920RB
SC150L= SCF150-2920RB	SC500L= SCF500-16-2920RB
SC185L= SCF185-2920RB	SC600L= SCF600-12-2920RB

# Surface Mount Resettable PTCs

## SCF2920RB Series

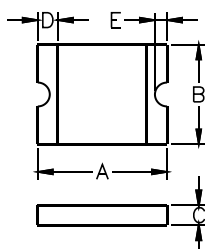
### Recommended Solder Pad Layout Dimensions (Unit: mm)

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
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

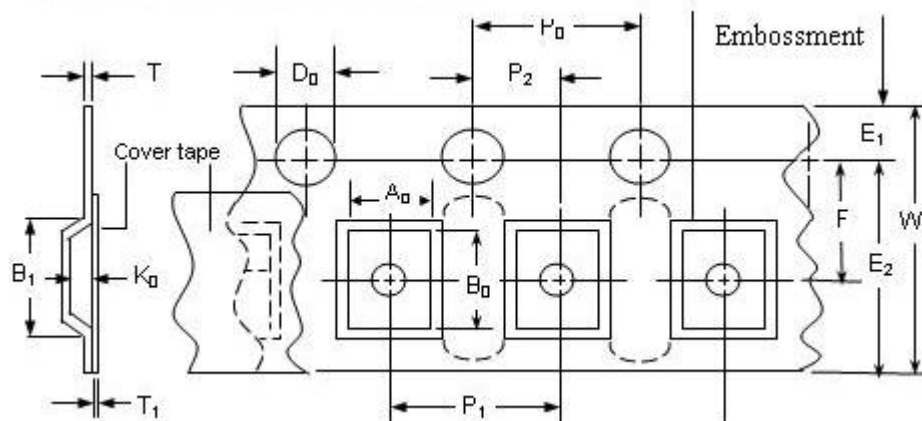
## SCF2920RB Series

### Packaging Quantity

Part Number	Quantity	Part Number	Quantity
SCF030-2920RB	2000 PCS	SCF200-2920RB	2000 PCS
SCF050-2920RB	2000 PCS	SCF200-24-2920RB	1500 PCS
SCF075-2920RB	2000 PCS	SCF250-2920RB	2000 PCS
SCF075-60-2920RB	1500 PCS	SCF260-2920RB	2000 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

### Tape Specifications (Unit: mm)

#### EIA Tape Component Dimensions



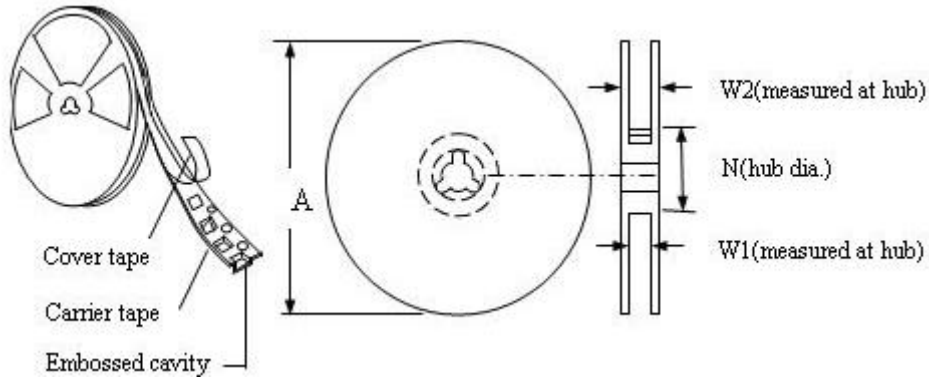
Symbol	Dimensions
W	16.00±0.30
P <sub>0</sub>	4.00±0.10
P <sub>1</sub>	8.00±0.10
P <sub>2</sub>	2.00±0.10
A <sub>0</sub>	5.74±0.10
B <sub>0</sub>	8.02±0.10
D <sub>0</sub>	1.55±0.05
F	7.50±0.10
E <sub>1</sub>	1.75±0.10
T	0.20±0.10
Leader min.	390
Trailer min.	160

## Surface Mount Resettable PTCs

### SCF2920RB Series

#### Reel Specifications (Unit: mm)

##### Reel Dimensions



Symbol	Dimensions
<b>A</b>	178±1.0
<b>N</b>	58±1.0
<b>W1</b>	16.9±0.80
<b>W2</b>	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.