



## SCF160-16-1812RB Resettable Fuse PPTC 16Vmax 1.0W Power Resistance 0.03 - 0.13Ω

Our Product Introduction

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### Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: UL, TUV, REACH, RoHS, ISO
- Model Number: SCF160-16-1812RB
- Minimum Order Quantity: 2000PCS
- Price: Negotiable
- Delivery Time: 5-8 work days



### Product Specification

- Product Name: PPTC Resettable Fuse
- Package Type: SMD1812
- I Hold: 1.6A
- I Trip: 2.8A
- V Max: 16V
- I Max: 40A
- P Dtyp.: 1.0W
- Maximum Time To Trip Current: 8A
- Maximum Time To Trip Time: 1Sec
- Resistance Min: 0.03Ω
- Resistance Max: 0.13Ω
- Highlight: **Resettable Fuse PPTC 16Vmax, 1.0W Resettable Fuse PPTC**



### More Images



## Product Description

**SMD1812 Series Resettable Fuse SCF160-16-1812RB 16Vmax 1.0W Typical Power Resistance 0.03~0.13Ω**

**DATASHEET: [SCF1812RB Series\\_v2310.1.pdf](#)**

| 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) |
| SCF010-1812RB    | 0.10           | 0.30           | 60.0            | 100           | 0.8             | 0.50                 | 1.50        | 0.750         | 15.000         |
| SCF014-1812RB    | 0.14           | 0.34           | 60.0            | 100           | 0.8             | 1.50                 | 0.15        | 0.650         | 6.000          |
| SCF020-1812RB    | 0.20           | 0.40           | 30.0            | 100           | 0.8             | 8.0                  | 0.02        | 0.350         | 5.000          |
| SCF030-1812RB    | 0.30           | 0.60           | 30.0            | 100           | 0.8             | 8.0                  | 0.10        | 0.250         | 3.000          |
| SCF035-1812RB    | 0.35           | 0.70           | 16.0            | 100           | 0.8             | 8.0                  | 0.10        | 0.200         | 2.500          |
| SCF035-30-1812RB | 0.35           | 0.70           | 30.0            | 100           | 0.8             | 8.0                  | 0.10        | 0.200         | 2.500          |
| SCF050-1812RB    | 0.50           | 1.00           | 15.0            | 100           | 0.8             | 8.0                  | 0.15        | 0.150         | 1.000          |
| SCF050-24-1812RB | 0.50           | 1.00           | 24.0            | 100           | 0.8             | 8.0                  | 0.15        | 0.150         | 1.000          |
| SCF050-30-1812RB | 0.50           | 1.00           | 30.0            | 100           | 0.8             | 8.0                  | 0.15        | 0.150         | 1.000          |
| SCF050-60-1812RB | 0.50           | 1.00           | 60.0            | 40            | 0.8             | 8.0                  | 0.15        | 0.150         | 1.400          |
| SCF075-1812RB    | 0.75           | 1.50           | 13.2            | 100           | 0.8             | 8.0                  | 0.20        | 0.090         | 0.450          |
| SCF075-24-1812RB | 0.75           | 1.50           | 24.0            | 100           | 0.8             | 8.0                  | 0.20        | 0.090         | 0.450          |
| SCF075-33-1812RB | 0.75           | 1.50           | 33.0            | 100           | 0.8             | 8.0                  | 0.20        | 0.090         | 0.450          |
| SCF110-1812RB    | 1.10           | 2.20           | 8.0             | 100           | 0.8             | 8.0                  | 0.30        | 0.050         | 0.250          |
| SCF110-16-1812RB | 1.10           | 2.20           | 16.0            | 100           | 0.8             | 8.0                  | 0.30        | 0.050         | 0.250          |
| SCF110-24-1812RB | 1.10           | 2.20           | 24.0            | 100           | 0.8             | 8.0                  | 0.30        | 0.050         | 0.250          |
| SCF110-33-1812RB | 1.10           | 2.20           | 33.0            | 100           | 0.8             | 8.0                  | 0.30        | 0.050         | 0.250          |
| SCF125-1812RB    | 1.25           | 2.50           | 8.0             | 100           | 0.8             | 8.0                  | 0.40        | 0.050         | 0.200          |
| SCF125-16-1812RB | 1.25           | 2.50           | 16.0            | 100           | 0.8             | 8.0                  | 0.40        | 0.050         | 0.200          |
| SCF150-1812RB    | 1.50           | 3.00           | 8.0             | 100           | 0.8             | 8.0                  | 0.50        | 0.040         | 0.160          |
| SCF150-16-1812RB | 1.50           | 3.00           | 16.0            | 100           | 0.8             | 8.0                  | 0.50        | 0.040         | 0.160          |
| SCF150-24-1812RB | 1.50           | 3.00           | 24.0            | 100           | 0.8             | 8.0                  | 0.50        | 0.040         | 0.160          |
| SCF160-1812RB    | 1.60           | 2.80           | 8.0             | 100           | 0.8             | 8.0                  | 1.00        | 0.030         | 0.130          |
| SCF160-16-1812RB | 1.60           | 2.80           | 16              | 40            | 1.0             | 8.0                  | 1.00        | 0.030         | 0.130          |
| SCF200-1812RB    | 2.00           | 4.00           | 8.0             | 100           | 0.8             | 8.0                  | 2.00        | 0.020         | 0.100          |
| SCF200-12-1812RB | 2.00           | 4.00           | 12.0            | 100           | 0.8             | 8.0                  | 2.00        | 0.020         | 0.100          |
| SCF200-16-1812RB | 2.00           | 4.00           | 16.0            | 100           | 0.8             | 8.0                  | 2.00        | 0.020         | 0.100          |
| SCF260-1812RB    | 2.60           | 5.00           | 8.0             | 100           | 1.0             | 8.0                  | 2.50        | 0.015         | 0.050          |
| SCF260-12-1812RB | 2.60           | 5.00           | 12.0            | 100           | 1.0             | 8.0                  | 2.50        | 0.015         | 0.060          |
| SCF260-16-1812RB | 2.60           | 5.00           | 16.0            | 100           | 1.0             | 8.0                  | 2.50        | 0.015         | 0.060          |
| SCF300-1812RB    | 3.00           | 5.00           | 6.0             | 100           | 1.0             | 8.0                  | 4.00        | 0.012         | 0.040          |

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

$I_{trip}$  = Trip Current. Minimum current at which the device will always trip in 25 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 still air environment at rated voltage.

$R_{min}$  = Minimum device resistance prior to tripping at 25.

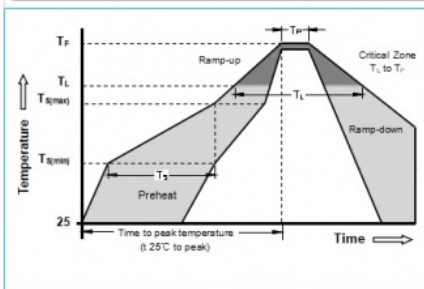
$R_{1max}$  = Maximum device resistance is measured one hour post reflow.

## Features:

- u RoHS Compliant & Halogen Free
- u Faster tripping, 1812 Dimension, Surface mountable, Solid state
- u Operation Current: 0.10A ~ 3.00A
- u Maximum Voltage: 6V ~ 60Vdc
- u Operating Temperature: -40 ~ + 85

| Model            | Maximum ambient operating temperature ( ) |      |      |      |      |      |      |      |      |
|------------------|-------------------------------------------|------|------|------|------|------|------|------|------|
|                  | -40                                       | -20  | 0    | 25   | 40   | 50   | 60   | 70   | 85   |
| SCF010-1812RB    | 0.16                                      | 0.14 | 0.12 | 0.10 | 0.08 | 0.07 | 0.06 | 0.05 | 0.03 |
| SCF014-1812RB    | 0.23                                      | 0.19 | 0.17 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 | 0.06 |
| SCF020-1812RB    | 0.29                                      | 0.26 | 0.23 | 0.20 | 0.17 | 0.15 | 0.14 | 0.12 | 0.10 |
| SCF030-1812RB    | 0.44                                      | 0.39 | 0.35 | 0.30 | 0.26 | 0.23 | 0.21 | 0.17 | 0.15 |
| SCF035-1812RB    | 0.51                                      | 0.46 | 0.41 | 0.35 | 0.30 | 0.27 | 0.25 | 0.21 | 0.17 |
| SCF035-30-1812RB | 0.51                                      | 0.46 | 0.41 | 0.35 | 0.30 | 0.27 | 0.25 | 0.21 | 0.17 |
| SCF050-1812RB    | 0.59                                      | 0.57 | 0.55 | 0.50 | 0.45 | 0.43 | 0.35 | 0.30 | 0.23 |
| SCF050-24-1812RB | 0.59                                      | 0.57 | 0.55 | 0.50 | 0.45 | 0.43 | 0.35 | 0.30 | 0.23 |
| SCF050-30-1812RB | 0.59                                      | 0.57 | 0.55 | 0.50 | 0.45 | 0.43 | 0.35 | 0.30 | 0.23 |
| SCF050-60-1812RB | 0.59                                      | 0.57 | 0.55 | 0.50 | 0.45 | 0.43 | 0.35 | 0.30 | 0.23 |
| SCF075-1812RB    | 1.10                                      | 0.99 | 0.87 | 0.75 | 0.63 | 0.57 | 0.49 | 0.45 | 0.35 |
| SCF075-24-1812RB | 1.10                                      | 0.99 | 0.87 | 0.75 | 0.63 | 0.57 | 0.49 | 0.45 | 0.35 |
| SCF075-33-1812RB | 1.10                                      | 0.99 | 0.87 | 0.75 | 0.63 | 0.57 | 0.49 | 0.45 | 0.35 |
| SCF110-1812RB    | 1.60                                      | 1.45 | 1.28 | 1.10 | 0.92 | 0.83 | 0.71 | 0.66 | 0.52 |
| SCF110-16-1812RB | 1.60                                      | 1.45 | 1.28 | 1.10 | 0.92 | 0.83 | 0.71 | 0.66 | 0.52 |
| SCF110-24-1812RB | 1.60                                      | 1.45 | 1.28 | 1.10 | 0.92 | 0.83 | 0.71 | 0.66 | 0.52 |
| SCF110-33-1812RB | 1.60                                      | 1.45 | 1.28 | 1.10 | 0.92 | 0.83 | 0.71 | 0.66 | 0.52 |
| SCF125-1812RB    | 2.00                                      | 1.75 | 1.52 | 1.25 | 1.00 | 0.95 | 0.90 | 0.75 | 0.53 |
| SCF125-16-1812RB | 2.00                                      | 1.75 | 1.52 | 1.25 | 1.00 | 0.95 | 0.90 | 0.75 | 0.53 |
| SCF150-1812RB    | 2.30                                      | 2.05 | 1.77 | 1.50 | 1.23 | 1.09 | 0.95 | 0.82 | 0.61 |
| SCF150-16-1812RB | 2.30                                      | 2.05 | 1.77 | 1.50 | 1.23 | 1.09 | 0.95 | 0.82 | 0.61 |
| SCF150-24-1812RB | 2.30                                      | 2.05 | 1.77 | 1.50 | 1.23 | 1.09 | 0.95 | 0.82 | 0.61 |
| SCF160-1812RB    | 2.45                                      | 2.15 | 1.89 | 1.60 | 1.34 | 1.25 | 1.15 | 0.96 | 0.79 |
| SCF160-16-1812RB | 2.45                                      | 2.15 | 1.89 | 1.60 | 1.34 | 1.25 | 1.15 | 0.96 | 0.79 |
| SCF200-1812RB    | 2.89                                      | 2.61 | 2.30 | 2.00 | 1.75 | 1.66 | 1.45 | 1.39 | 1.19 |
| SCF200-12-1812RB | 2.89                                      | 2.61 | 2.30 | 2.00 | 1.75 | 1.66 | 1.45 | 1.39 | 1.19 |
| SCF200-16-1812RB | 2.89                                      | 2.61 | 2.30 | 2.00 | 1.75 | 1.66 | 1.45 | 1.39 | 1.19 |
| SCF260-1812RB    | 3.76                                      | 3.39 | 2.99 | 2.60 | 2.28 | 2.16 | 1.89 | 1.81 | 1.55 |
| SCF260-12-1812RB | 3.38                                      | 3.05 | 2.69 | 2.60 | 2.05 | 1.94 | 1.70 | 1.63 | 1.39 |
| SCF260-16-1812RB | 3.38                                      | 3.05 | 2.69 | 2.60 | 2.05 | 1.94 | 1.70 | 1.63 | 1.39 |
| SCF300-1812RB    | 4.34                                      | 3.92 | 3.45 | 3.00 | 2.63 | 2.49 | 2.18 | 2.09 | 1.79 |

#### Soldering Parameters



| Profile Feature                                                     | Pb-Free Assembly |
|---------------------------------------------------------------------|------------------|
| Average Ramp-Up Rate (T <sub>s</sub> max to T <sub>p</sub> )        | 3°C/second max.  |
| Preheat :                                                           |                  |
| Temperature Min (T <sub>smin</sub> )                                | 150°C            |
| Temperature Max (T <sub>smax</sub> )                                | 200°C            |
| Time (T <sub>smin</sub> to T <sub>smax</sub> )                      | 60-120 seconds   |
| Time maintained above:                                              |                  |
| Temperature(T <sub>i</sub> )                                        | 217°C            |
| Time (T <sub>i</sub> )                                              | 60-150 seconds   |
| Peak/Classification Temperature(T <sub>p</sub> )                    | 260°C            |
| Time within 5 °C of actual peak temperature: Time (T <sub>p</sub> ) | 30 seconds max.  |
| Ramp-down Rate                                                      | 3°C/ second max. |
| Time 25°C to Peak Temperature                                       | 8 minutes max.   |

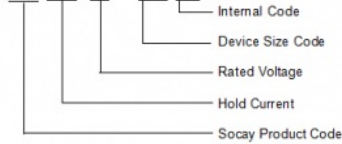
- Recommended reflow methods: In, vapor phase oven, hot air oven, N2 environment for lead-free.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25mm (0.010inch).
- Devices can be cleaned using standard industry methods and solvents.
- 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 – 1812 RB

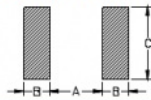


Example

|                         |                         |
|-------------------------|-------------------------|
| SC010= SCF010-1812RB    | SC110= SCF110-33-1812RB |
| SC014= SCF014-1812RB    | SC125= SCF125-16-1812RB |
| SC020= SCF020-1812RB    | SC125= SCF125-16-1812RB |
| SC030= SCF030-1812RB    | SC150= SCF150-1812RB    |
| SC035= SCF035-1812RB    | SC150= SCF150-16-1812RB |
| SC035= SCF035-30-1812RB | SC150= SCF150-24-1812RB |
| SC050= SCF050-1812RB    | SC160= SCF160-1812RB    |
| SC050= SCF050-24-1812RB | SC160= SCF160-16-1812RB |
| SC050= SCF050-30-1812RB | SC200= SCF200-1812RB    |
| SC050= SCF050-60-1812RB | SC200= SCF200-12-1812RB |
| SC075= SCF075-1812RB    | SC200= SCF200-16-1812RB |
| SC075= SCF075-24-1812RB | SC260= SCF260-1812RB    |
| SC075= SCF075-33-1812RB | SC260= SCF260-12-1812RB |
| SC110= SCF110-1812RB    | SC260= SCF260-16-1812RB |
| SC110= SCF110-16-1812RB | SC300= SCF300-1812RB    |
| SC110= SCF110-24-1812RB |                         |

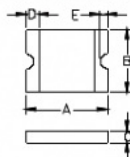
## Recommended Solder Pad Layout Dimensions (Unit: mm)

The dimension in the table below provide the recommended pad layout for each SCF1812RB Series device.



| Device      | A         | B          | C         |
|-------------|-----------|------------|-----------|
| 1812 Series | 3.2 ± 0.1 | 1.78 ± 0.1 | 3.2 ± 0.1 |

## Product Dimensions (Unit: mm)



| Part Number      | A    |      | B    |      | C    |      | D    | E    |
|------------------|------|------|------|------|------|------|------|------|
|                  | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Min. |
| SCF010-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.00 | 0.30 | 0.15 |
| SCF014-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.10 | 0.30 | 0.15 |
| SCF020-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.00 | 0.30 | 0.15 |
| SCF030-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.00 | 0.30 | 0.15 |
| SCF035-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.00 | 0.30 | 0.25 |
| SCF035-30-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.00 | 0.30 | 0.25 |
| SCF050-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.40 | 0.90 | 0.30 | 0.15 |
| SCF050-24-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.40 | 0.90 | 0.30 | 0.15 |
| SCF050-30-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.40 | 1.00 | 0.30 | 0.15 |
| SCF050-60-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.40 | 0.30 | 0.15 |
| SCF075-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.40 | 0.90 | 0.30 | 0.15 |
| SCF075-24-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.20 | 0.30 | 0.15 |
| SCF075-33-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.60 | 1.20 | 0.30 | 0.15 |
| SCF110-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.40 | 0.90 | 0.30 | 0.15 |
| SCF110-16-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.40 | 0.90 | 0.30 | 0.15 |
| SCF110-24-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.60 | 1.30 | 0.30 | 0.15 |
| SCF110-33-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.70 | 1.70 | 0.30 | 0.15 |
| SCF125-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.30 | 0.90 | 0.30 | 0.15 |
| SCF125-16-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.20 | 0.30 | 0.15 |
| SCF150-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.30 | 0.90 | 0.30 | 0.15 |
| SCF150-16-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.20 | 0.30 | 0.15 |
| SCF150-24-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.80 | 1.70 | 0.30 | 0.15 |
| SCF160-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.30 | 0.80 | 0.30 | 0.15 |
| SCF160-16-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.10 | 0.30 | 0.25 |
| SCF200-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.40 | 1.20 | 0.30 | 0.15 |
| SCF200-12-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.40 | 1.20 | 0.30 | 0.15 |
| SCF200-16-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.20 | 0.30 | 0.15 |
| SCF260-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.20 | 0.30 | 0.15 |
| SCF260-12-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.60 | 1.50 | 0.30 | 0.15 |
| SCF260-16-1812RB | 4.37 | 4.73 | 3.07 | 3.41 | 0.80 | 1.80 | 0.30 | 0.15 |
| SCF300-1812RB    | 4.37 | 4.73 | 3.07 | 3.41 | 0.50 | 1.50 | 0.30 | 0.15 |

| Part Number      | Quantity | Part Number      | Quantity |
|------------------|----------|------------------|----------|
| SCF010-1812RB    | 1500 PCS | SCF110-33-1812RB | 1500 PCS |
| SCF014-1812RB    | 1500 PCS | SCF125-1812RB    | 2000 PCS |
| SCF020-1812RB    | 1500 PCS | SCF125-16-1812RB | 1500 PCS |
| SCF030-1812RB    | 1500 PCS | SCF150-1812RB    | 2000 PCS |
| SCF035-1812RB    | 1500 PCS | SCF150-16-1812RB | 1500 PCS |
| SCF035-30-1812RB | 1500 PCS | SCF150-24-1812RB | 1500 PCS |
| SCF050-1812RB    | 2000 PCS | SCF160-1812RB    | 2000 PCS |
| SCF050-24-1812RB | 2000 PCS | SCF160-16-1812RB | 2000 PCS |
| SCF050-30-1812RB | 2000 PCS | SCF200-1812RB    | 2000 PCS |
| SCF050-60-1812RB | 1500 PCS | SCF200-12-1812RB | 1500 PCS |
| SCF075-1812RB    | 2000 PCS | SCF200-16-1812RB | 1500 PCS |
| SCF075-24-1812RB | 2000 PCS | SCF260-1812RB    | 1500 PCS |
| SCF075-33-1812RB | 1500 PCS | SCF260-12-1812RB | 1500 PCS |

|                  |          |                  |          |
|------------------|----------|------------------|----------|
| SCF110-1812RB    | 2000 PCS | SCF260-16-1812RB | 1500 PCS |
| SCF110-16-1812RB | 2000 PCS | SCF300-1812RB    | 1500 PCS |
| SCF110-24-1812RB | 1500 PCS | --               | --       |



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