

Surface-Mount Devices | 0603 Size

PTC Resettable Fuses

SRF0603 Series

Features

- Compact design saves board space
- Fast response to fault currents
- Compatible with high temperature solders
- Low resistance
- Low-profile
- RoHS compliant, lead-free and halogen-free



Applications

- Computer
- Portable electronics
- Multimedia
- Game machines
- Telephony and broadband
- Mobile phones
- Automotive
- Industrial controls



Electrical Characteristics

| Part Number | I_H (A) | I_T (A) | V_{max} (V) | I_{max} (A) | Time to Trip | | $P_{d_{typ}}$ (W) | R_{min} (Ω) | $R_{1_{max}}$ (Ω) |
|-------------|--------------|--------------|------------------|------------------|--------------|--------|----------------------|---------------------------|-------------------------------|
| | | | | | (A) | (Sec.) | | | |
| SRF0603P010 | 0.10 | 0.30 | 15.0 | 40 | 0.5 | 1.00 | 0.50 | 0.900 | 6.000 |
| SRF0603P020 | 0.20 | 0.50 | 9.0 | 40 | 1.0 | 0.60 | 0.50 | 0.550 | 3.500 |
| SRF0603P035 | 0.35 | 0.75 | 6.0 | 40 | 8.0 | 0.10 | 0.50 | 0.200 | 1.400 |
| SRF0603P050 | 0.50 | 1.00 | 6.0 | 40 | 8.0 | 0.10 | 0.50 | 0.100 | 0.800 |

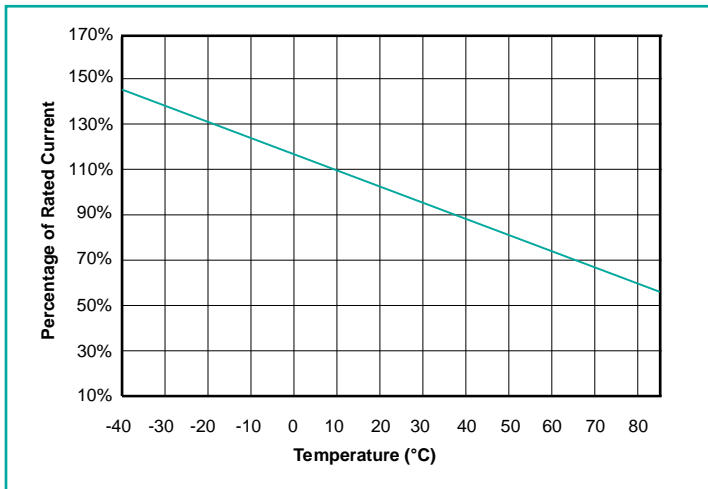
I_{hold} = Hold current: maximum current device will pass without tripping in 25°C still air.
 I_{trip} = Trip current: minimum current at which the device will trip in 25°C still air.
 V_{max} = Maximum voltage device can withstand without damage at rated current (I_{max})
 I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max})
 P_d = Power dissipated from device when in the tripped state at 25°C still air.

R_{min} = Minimum resistance of device in initial (un-soldered) state.
 R_{typ} = Typical resistance of device in initial (un-soldered) state.
 $R_{1_{max}}$ = Maximum resistance of device at 25°C measured one hour after tripping or reflow soldering of 260°C for 20 sec.
 Operating Temperature = -40 °C to +85 °C

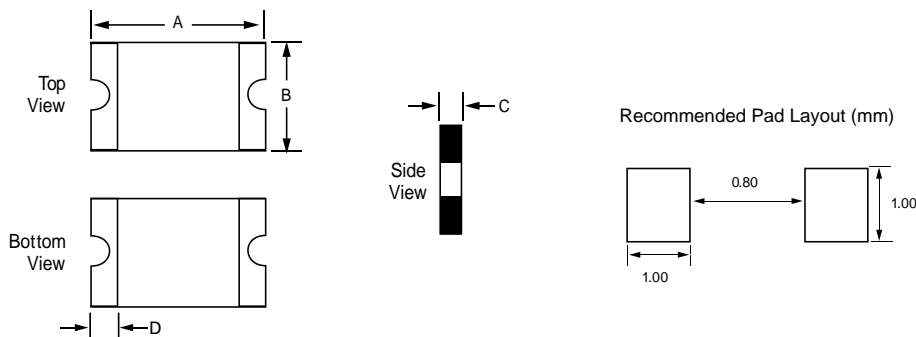
Thermal Derating Chart Hold Current (A)

| Part Number | Ambient Operating Temperature | | | | | | | | |
|-------------|-------------------------------|-------|------|------|------|------|------|------|------|
| | -40°C | -20°C | 0°C | 25°C | 40°C | 50°C | 60°C | 70°C | 85°C |
| SRF0603P010 | 0.13 | 0.12 | 0.11 | 0.10 | 0.08 | 0.07 | 0.06 | 0.05 | 0.03 |
| SRF0603P020 | 0.27 | 0.25 | 0.23 | 0.20 | 0.17 | 0.14 | 0.12 | 0.10 | 0.07 |
| SRF0603P035 | 0.47 | 0.41 | 0.38 | 0.35 | 0.29 | 0.26 | 0.24 | 0.20 | 0.14 |
| SRF0603P050 | 0.67 | 0.60 | 0.54 | 0.50 | 0.41 | 0.37 | 0.34 | 0.29 | 0.20 |

Temperature Derating Curve



Dimensions (mm)



| Part Number | Marking | A | | B | | C | | D |
|-------------|---------|------|------|------|------|------|------|------|
| | | Min. | Max. | Min. | Max. | Min. | Max. | Min. |
| SRF0603P010 | I | 1.45 | 1.85 | 0.65 | 1.05 | 0.35 | 0.75 | 0.20 |
| SRF0603P020 | — | 1.45 | 1.85 | 0.65 | 1.05 | 0.30 | 0.65 | 0.20 |
| SRF0603P035 | II | 1.45 | 1.85 | 0.65 | 1.05 | 0.30 | 0.65 | 0.20 |
| SRF0603P050 | Black | 1.45 | 1.85 | 0.65 | 1.05 | 0.60 | 1.00 | 0.20 |

Packaging Options

| $I_{hold(A)}$ | Quantity |
|---------------|----------|
| 0.10~0.35 | 5,000pcs |
| 0.50 | 4,000pcs |

Reel packaging per EIA -481-1 standard

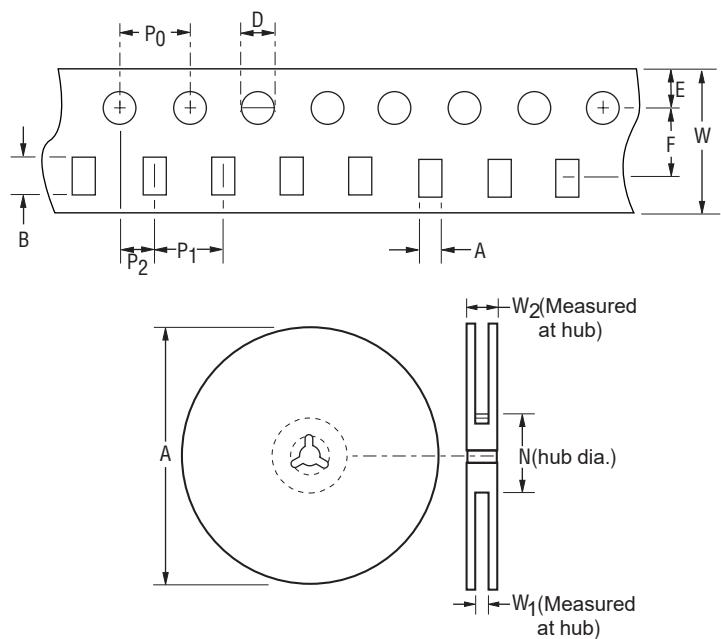
Tape and Reel Specification

Dimensions: mm

| | |
|----|-----------------|
| W | 8.0 ± 0.1 |
| P0 | 4.0 ± 0.1 |
| P1 | 4.0 ± 0.05 |
| P2 | 2.0 ± 0.05 |
| A | 1.25 ± 0.05 |
| B | 2.05 ± 0.05 |
| D | 1.55 ± 0.05 |
| F | 3.5 ± 0.05 |
| E | 1.75 ± 0.1 |

Reel Dimensions

| | |
|---------|--------------------|
| A max. | 185 |
| N min. | 50 |
| W1 | $8.4 + 1.5 / -0.0$ |
| W2 max. | 14.4 |



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