

Surface-Mount Devices | 0402

Size PTC Resettable Fuses

Features

- Resettable over current and over temperature protection
- Standard 0402mils footprint
- Fast time-to-trip
- RoHS compliant
- Low resistance



Applications

- USB peripherals including new USB 3.0 / 2.0 ports
- Li-ion / Li-Polymer battery packs
- Smart phones
- E-readers
- LCD / LED HDTV
- Tablet , Notebook PCs and Computer peripherals
- Digital cameras and video cameras
- Hard disk drives
- Game consoles



Electrical Characteristics

Part Number	I_H (A)	I_T (A)	V_{max} (V)	I_{max} (A)	Time to Trip		Pd_{typ} (W)	R_{min} (Ω)	$R1_{max}$ (Ω)
					(A)	(Sec)			
SRF0402P010LR	0.10	0.30	6	50	0.50	1.00	0.50	0.150	2.000
SRF0402P020LR	0.20	0.50	6	50	1.00	1.00	0.50	0.100	1.250
SRF0402P035LR	0.35	0.70	6	50	8.00	1.00	0.50	0.050	0.700
SRF0402P050LR	0.50	1.00	6	50	8.00	1.00	0.50	0.040	0.400
SRF0402P100LR	1.00	2.00	6	50	8.00	5.00	0.50	0.025	0.250

I_H = Hold current: maximum current at which the device will not trip at 25°C still air.

I_T = Trip current: minimum current at which the device will always trip at 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.

T_{trip} = Maximum time to trip(s) at assigned current.

Pd_{typ} = Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

R_{min} = Minimum resistance of device in initial (un-soldered) state.

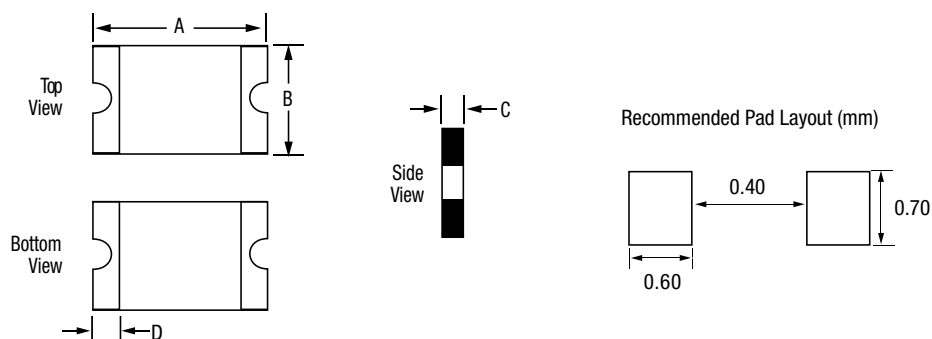
$R1_{max}$ = Maximum resistance of device at 25°C measured one hour after reflow.

Noted: All electrical function test is conducted after PCB mounted.

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
SRF0402P010LR	0.15	0.13	0.12	0.10	0.09	0.08	0.07	0.06	0.05
SRF0402P020LR	0.26	0.24	0.22	0.20	0.16	0.14	0.12	0.10	0.07
SRF0402P035LR	0.46	0.42	0.39	0.35	0.28	0.25	0.21	0.18	0.12
SRF0402P050LR	0.65	0.60	0.55	0.50	0.40	0.35	0.30	0.25	0.17
SRF0402P100LR	1.25	1.18	1.10	1.00	0.90	0.80	0.70	0.60	0.50

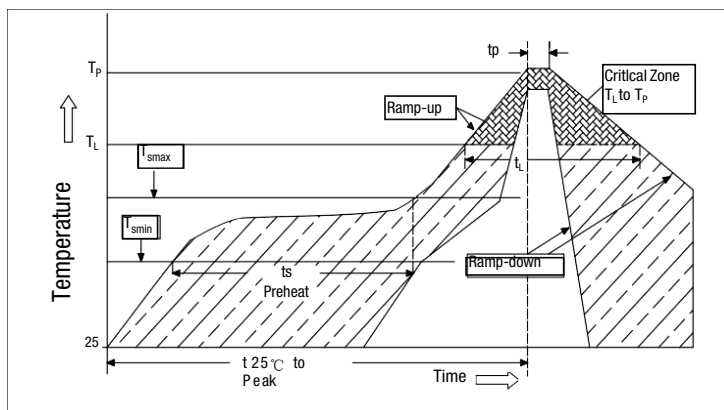
Dimensions (mm)



Part Number	Marking	A		B		C		D
		Min.	Max.	Min.	Max.	Min.	Max.	Min.
SRF0402P010LR	White	0.95	1.25	0.45	0.75	0.30	0.60	0.10
SRF0402P020LR	Yellow	0.95	1.25	0.45	0.75	0.35	0.65	0.10
SRF0402P035LR	Black	0.95	1.25	0.45	0.75	0.30	0.60	0.10
SRF0402P050LR	Green	0.95	1.25	0.45	0.75	0.40	0.60	0.10
SRF0402P100LR	Red	0.95	1.25	0.45	0.75	0.30	0.60	0.10

Solder Reflow Conditions

Reflow Profile	Lead free
Heating rate from T_{smax} to T_p	Max.3°C/second
Pre-heat:	
T_{smin}	150°C
T_{smax}	200°C
T_{smin} to T_{smax}	60~180seconds
Soldering time:	
Temperature (T_L)	>217°C
Time (t_L)	60~150seconds
Peak temperature (T_p)	260°C
Time at Peak temperature ±5°C (t_p)	20~40seconds
Cooling rate	Max.6°C/second
Time from 25°C to Peak Temperature	8 minutes max



Cautions for Reflow:

1. Recommended reflow methods: IR, hot air oven, nitrogen oven;
2. The printed solder thickness is not over 0.25mm, Excess solder may cause a short circuit, especially during hand soldering;
3. If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements;
4. Device can not be wave soldered. Please contact Prosemi for hand soldering and dip soldering recommendations;
5. Device can't contact solvent;

Note: All temperature in top chart is measured on the surface of devices.

Packaging Options

I hold(A)	Quantity
0.10~1.00	10,000pcs

Reel packaging per EIA-481-1 standard