

Surface-Mount Devices | 1812 Size

SRF1812LR Series

PTC Resettable Fuses

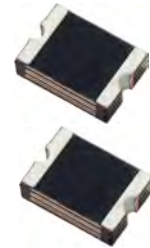
Features

- Surface Mount Devices
- Standard 1812mils footprint
- Surface Mount packaging for automated assembly
- Compatible with Pb and Pb-free solder reflow profiles



Applications

- USB peripherals including new USB 3.0 / 2.0 ports
- Li-ion / Li-Polymer battery packs
- Smart phones
- Tablet and Notebook PCs
- E-readers
- LCD / LED HDTV
- 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		P _d typ (W)	R _{min} (Ω)	R _{1max} (Ω)
					(A)	(Sec)			
SRF1812P200LR	2.00	5.00	6	50	8.00	5.00	1.50	0.004	0.024
SRF1812P200/12LR	2.00	5.00	12	50	8.00	5.00	1.50	0.004	0.024
SRF1812P250R	2.50	6.00	6	50	8.00	5.00	1.50	0.003	0.020
SRF1812P300LR	3.00	6.00	6	50	15.00	5.00	1.50	0.004	0.025
SRF1812P300/12LR	3.00	6.00	12	50	15.00	5.00	1.50	0.004	0.025
SRF1812P350LR	3.50	7.00	6	50	17.50	5.00	1.50	0.003	0.020
SRF1812P350/12LR	3.50	7.00	12	50	17.50	5.00	1.50	0.003	0.020
SRF1812P400LR	4.00	8.00	6	50	20.00	5.00	1.50	0.002	0.013
SRF1812P400/12LR	4.00	8.00	12	50	20.00	5.00	1.50	0.004	0.014
SRF1812P400/16LR	4.00	8.00	16	50	20.00	5.00	1.50	0.002	0.014
SRF1812P450LR	4.50	9.00	6	50	22.50	5.00	1.50	0.002	0.013
SRF1812P450/12LR	4.50	9.00	12	50	22.50	5.00	1.50	0.002	0.013
SRF1812P450/24LR	4.50	9.00	24	50	22.50	5.00	1.50	0.002	0.013
SRF1812P500LR	5.00	10.00	6	50	30.00	5.00	1.50	0.002	0.012
SRF1812P500/12LR	5.00	10.00	12	50	30.00	5.00	1.50	0.001	0.013
SRF1812P500/16LR	5.00	10.00	16	50	30.00	5.00	1.50	0.001	0.013
SRF1812P500/24LR	5.00	10.00	24	50	30.00	5.00	1.50	0.001	0.013
SRF1812P700LR	7.00	14.00	6	50	35.00	5.00	1.50	0.0007	0.010
SRF1812P700/24LR	7.00	14.00	24	50	35.00	5.00	1.50	0.0007	0.010
SRF1812P750LR	7.50	15.00	6/8	50	37.50	5.00	1.50	0.0005	0.008

Surface-Mount Devices | 1812 Size

PTC Resettable Fuses

SRF1812LR Series

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)			
SRF1812P750/12LR	7.50	15.00	12	50	37.50	5.00	1.50	0.0005	0.008
SRF1812P800LR	8.00	16.00	6	50	40.00	5.00	1.50	0.0005	0.008
SRF1812P900/12LR	9.00	18.00	12	50	45.00	5.00	1.50	0.0005	0.007

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
SRF1812P200LR	3.00	2.65	2.30	2.00	1.70	1.45	1.27	1.10	0.88
SRF1812P200/12LR	3.00	2.65	2.30	2.00	1.70	1.45	1.27	1.10	0.88
SRF1812P250LR	3.63	3.31	2.88	2.50	2.13	1.80	1.59	1.38	1.11
SRF1812P300LR	4.38	3.85	3.51	3.00	2.62	2.31	2.08	1.82	1.54
SRF1812P300/12LR	4.38	3.85	3.51	3.00	2.62	2.31	2.08	1.82	1.54
SRF1812P350LR	4.85	4.38	3.85	3.50	3.00	2.62	2.31	2.08	1.75
SRF1812P350/12LR	4.85	4.38	3.85	3.50	3.00	2.62	2.31	2.08	1.75
SRF1812P400LR	5.90	5.30	4.63	4.00	3.50	3.13	2.85	2.45	1.93
SRF1812P400/12LR	5.90	5.30	4.63	4.00	3.50	3.13	2.85	2.45	1.93
SRF1812P400/16LR	5.90	5.30	4.63	4.00	3.50	3.13	2.85	2.45	1.93
SRF1812P450LR	6.62	5.99	5.22	4.50	3.96	3.51	3.15	2.75	2.16
SRF1812P450/12LR	6.62	5.99	5.22	4.50	3.96	3.51	3.15	2.75	2.16
SRF1812P450/24LR	6.62	5.99	5.22	4.50	3.96	3.51	3.15	2.75	2.16
SRF1812P500LR	7.39	6.65	5.81	5.00	4.30	3.84	3.43	2.93	2.24
SRF1812P500/12LR	7.39	6.65	5.81	5.00	4.30	3.84	3.43	2.93	2.24
SRF1812P500/16LR	7.39	6.65	5.81	5.00	4.30	3.84	3.43	2.93	2.24
SRF1812P500/24LR	7.39	6.65	5.81	5.00	4.30	3.84	3.43	2.93	2.24
SRF1812P700LR	10.20	9.26	8.05	7.00	5.95	5.06	4.45	3.87	3.10
SRF1812P700/24LR	10.20	9.26	8.05	7.00	5.95	5.06	4.45	3.87	3.10
SRF1812P750LR	11.02	9.55	8.36	7.50	6.60	5.92	5.40	5.00	3.90

Surface-Mount Devices | 1812 Size

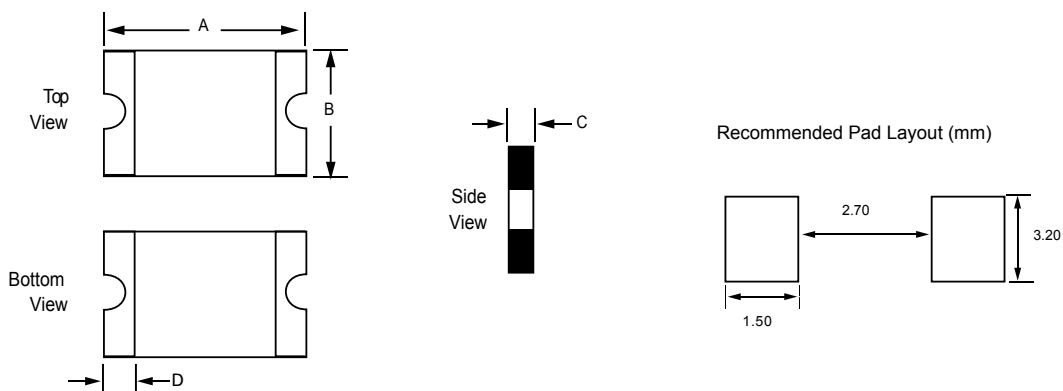
PTC Resettable Fuses

SRF1812LR Series

Part Number	Ambient Operating Temperature								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
SRF1812P750/12LR	11.02	9.55	8.36	7.50	6.60	5.92	5.40	5.00	3.90
SRF1812P800LR	11.02	9.55	8.36	8.00	6.60	5.92	5.40	5.00	3.90
SRF1812P900/12LR	11.30	10.50	9.50	9.00	7.60	6.30	5.10	4.00	3.00

Notes: The temperature derating data is for reference only. Please contact PROSEMI technical support for detail temperature derating information.

Dimensions (mm)

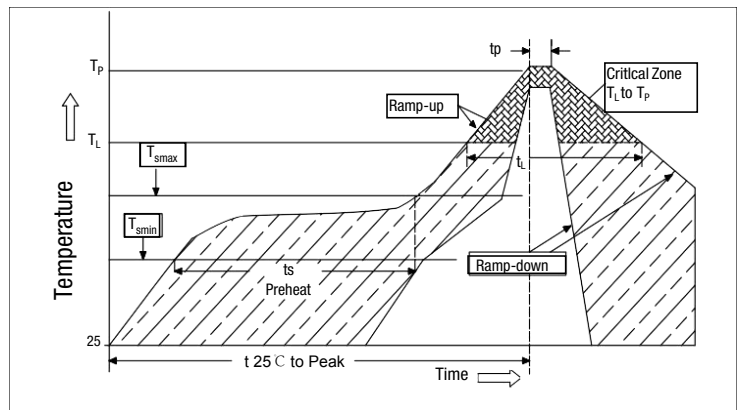


Part Number	Marking	A		B		C		D
		Min.	Max.	Min.	Max.	Min.	Max.	Min.
SRF1812P200LR	T200	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P200/12LR	T200	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P250LR	T250	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P300LR	T300	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P300/12LR	T300	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P350LR	T350	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P350/12R	T350	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P400LR	T400	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P400/12R	T400	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P400/16LR	T400	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P450LR	T450	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P450/12LR	T450	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P450/24LR	T450	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P500LR	T500	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P500/12LR	T500	4.37	4.73	3.07	3.41	0.35	0.85	0.30
SRF1812P500/16LR	T500	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P500/24LR	T500	4.37	4.73	3.07	3.41	0.40	0.80	0.30

Part Number	Marking	A		B		C		D
		Min.	Max.	Min.	Max.	Min.	Max.	Min.
SRF1812P700LR	T700	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P700/24LR	T700	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P750LR	T750	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P750/12LR	T750	4.37	4.73	3.07	3.41	1.00	1.45	0.30
SRF1812P800LR	T800	4.37	4.73	3.07	3.41	0.40	0.80	0.30
SRF1812P900/12LR	T900	4.37	4.73	3.07	3.41	0.40	0.80	0.30

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

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

Packaging Options

I hold(A)	Quantity
2.00A~5.00A	2,000pcs
7.00A~9.00A	1,500pcs

Reel packaging per EIA-481-1 standard