

Surface-Mount Devices | 1812 Size

SRF1812 Series

PTC Resettable Fuses

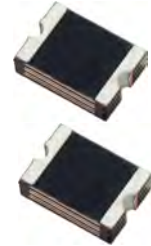
Features

- 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		Pd_{typ} (W)	R_{min} (Ω)	$R1_{max}$ (Ω)
					(A)	(Sec.)			
SRF1812P010	0.10	0.30	60	10	0.5	1.50	0.8	0.700	15.00
SRF1812P014	0.14	0.34	60	10	1.5	0.15	0.8	0.400	6.500
SRF1812P020	0.20	0.40	30	10	8.0	0.20	0.8	0.750	5.000
SRF1812P020/60	0.20	0.40	60	10	1.5	0.15	0.8	0.400	6.000
SRF1812P030	0.30	0.60	30	10	8.0	0.10	0.8	0.300	3.000
SRF1812P035	0.35	0.70	16	40	8.0	0.10	0.8	0.200	1.800
SRF1812P050	0.50	1.00	15	40	8.0	0.15	0.8	0.150	1.000
SRF1812P075	0.75	1.50	16	40	8.0	0.20	0.8	0.110	0.450
SRF1812P075/24	0.75	1.50	24	40	8.0	0.20	0.8	0.110	0.450
SRF1812P075/33	0.75	1.50	33	40	8.0	0.20	0.8	0.110	0.400
SRF1812P110	1.10	2.20	6	100	8.0	0.30	0.8	0.040	0.210
SRF1812P110/16	1.10	2.20	16	100	8.0	0.50	0.8	0.040	0.225
SRF1812P110/24	1.10	2.20	24	100	8.0	0.50	1.2	0.060	0.200
SRF1812P125	1.25	2.50	6	40	8.0	0.40	0.8	0.035	0.140
SRF1812P150	1.50	3.00	6	100	8.0	0.50	0.8	0.030	0.120
SRF1812P150/12	1.50	3.00	12	100	8.0	0.50	1.0	0.030	0.120

Electrical Characteristics (continued)

Part Number	I_H (A)	I_T (A)	V_{max} (V)	I_{max} (A)	Time to Trip		$P_{d_{typ}}$ (W)	R_{min} (Ω)	$R_{1_{ma}}$ (Ω)
					(A)	(Sec.)			
SRF1812P150/16	1.50	3.00	16	100	8.0	0.50	1.0	0.030	0.120
SRF1812P150/24	1.50	3.00	24	100	8.0	1.50	1.2	0.030	0.140
SRF1812P160	1.60	3.20	8	100	8.0	1.00	1.0	0.025	0.120
SRF1812P160/12	1.60	3.20	12	100	8.0	1.00	1.0	0.025	0.120
SRF1812P160/16	1.60	3.20	16	100	8.0	1.00	1.2	0.025	0.120
SRF1812P200	2.00	4.00	8	100	8.0	3.00	1.2	0.020	0.080
SRF1812P200/12	2.00	4.00	12	100	8.0	3.00	1.2	0.020	0.080
SRF1812P250/16	2.50	5.00	16	100	8.0	5.00	1.2	0.015	0.100
SRF1812P260	2.60	5.20	6	100	8.0	5.00	1.2	0.015	0.080
SRF1812P260/16	2.60	5.20	16	100	8.0	5.00	1.2	0.015	0.080
SRF1812P300	3.00	6.00	6	100	8.0	5.00	1.2	0.012	0.060

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.

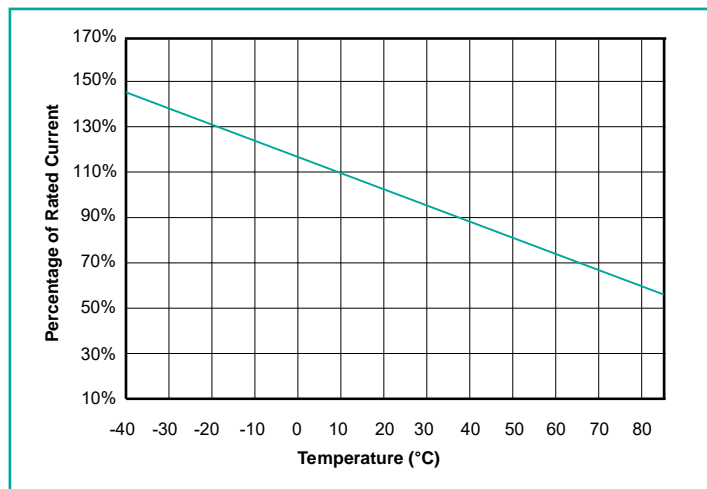
Thermal Derating Chart Hold Current (A)

Part Number	Ambient Operating Temperature								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
SRF1812P010	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.03
SRF1812P014	0.23	0.19	0.17	0.14	0.12	0.10	0.09	0.08	0.06
SRF1812P020	0.29	0.26	0.23	0.20	0.17	0.15	0.14	0.12	0.10
SRF1812P020/60	0.29	0.26	0.23	0.20	0.17	0.15	0.14	0.12	0.10
SRF1812P030	0.44	0.39	0.35	0.30	0.26	0.23	0.21	0.18	0.15
SRF1812P035	0.51	0.46	0.41	0.35	0.30	0.27	0.25	0.21	0.18
SRF1812P050	0.77	0.68	0.59	0.50	0.44	0.40	0.37	0.33	0.29
SRF1812P075	1.15	1.01	0.88	0.75	0.65	0.60	0.55	0.49	0.43
SRF1812P075/24	1.15	1.01	0.88	0.75	0.65	0.60	0.55	0.49	0.43
SRF1812P075/33	1.15	1.01	0.88	0.75	0.65	0.60	0.55	0.49	0.43

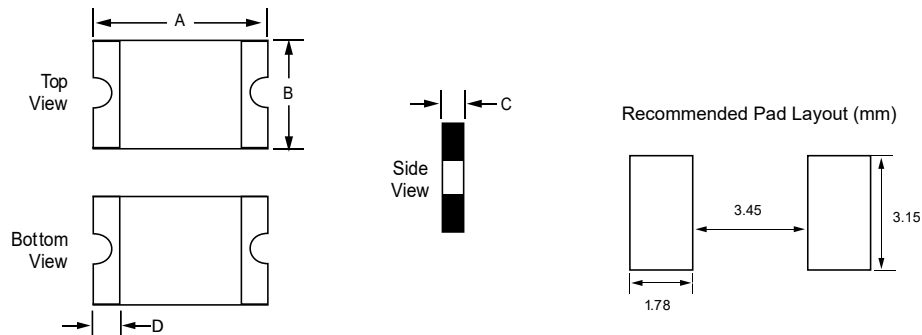
Thermal Derating Chart Hold Current (A) (continued)

Part Number	Ambient Operating Temperature								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
SRF1812P110	1.59	1.43	1.26	1.10	0.95	0.87	0.80	0.71	0.60
SRF1812P110/16	1.59	1.43	1.26	1.10	0.95	0.87	0.80	0.71	0.60
SRF1812P110/24	1.59	1.43	1.26	1.10	0.95	0.87	0.80	0.71	0.60
SRF1812P125	1.80	1.63	1.43	1.25	1.08	0.99	0.91	0.81	0.68
SRF1812P150	2.17	1.95	1.72	1.50	1.30	1.18	1.09	0.97	0.82
SRF1812P150/12	2.17	1.95	1.72	1.50	1.30	1.18	1.09	0.97	0.82
SRF1812P150/16	2.17	1.95	1.72	1.50	1.30	1.18	1.09	0.97	0.82
SRF1812P150/24	2.17	1.95	1.72	1.50	1.30	1.18	1.09	0.97	0.82
SRF1812P160	2.30	2.20	1.90	1.60	1.45	1.30	1.15	1.03	0.91
SRF1812P160/12	2.30	2.20	1.90	1.60	1.45	1.30	1.15	1.03	0.91
SRF1812P160/16	2.30	2.20	1.90	1.60	1.45	1.30	1.15	1.03	0.91
SRF1812P200	3.08	2.71	2.35	2.00	1.80	1.60	1.50	1.40	1.25
SRF1812P200/12	3.08	2.71	2.35	2.00	1.80	1.60	1.50	1.40	1.25
SRF1812P250/16	3.85	3.45	3.00	2.50	2.05	1.85	1.75	1.30	1.10
SRF1812P260	4.00	3.52	3.06	2.60	2.34	2.08	1.95	1.39	1.04
SRF1812P260/16	4.00	3.52	3.06	2.60	2.34	2.08	1.95	1.39	1.04
SRF1812P300	4.40	3.90	3.50	3.00	2.60	2.30	2.10	1.80	1.50

Temperature Derating Curve



Dimensions



Part Number	Marking	A		B		C		D
		Min	Max	Min	Max	Min	Max	Min
SRF1812P010	T010	4.37	4.73	3.07	3.41	0.80	1.20	0.30
SRF1812P014	T014	4.37	4.73	3.07	3.41	0.80	1.20	0.30
SRF1812P020	T020	4.37	4.73	3.07	3.41	0.80	1.20	0.30
SRF1812P020/60	T020	4.37	4.73	3.07	3.41	0.80	1.20	0.30
SRF1812P030	T030	4.37	4.73	3.07	3.41	0.80	1.20	0.30
SRF1812P035	T035	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P050	T050	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P075	T075	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P075/24	T075	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P075/33	T075	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P110	T110	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P110/16	T110	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P110/24	T110	4.37	4.73	3.07	3.41	0.80	1.20	0.30
SRF1812P125	T125	4.37	4.73	3.07	3.41	0.45	0.85	0.30
SRF1812P150	T150	4.37	4.73	3.07	3.41	0.45	0.85	0.30
SRF1812P150/12	T150	4.37	4.73	3.07	3.41	0.45	0.85	0.30
SRF1812P150/16	T150	4.37	4.73	3.07	3.41	0.45	0.85	0.30
SRF1812P150/24	T150	4.37	4.73	3.07	3.41	1.20	1.70	0.30
SRF1812P160	T160	4.37	4.73	3.07	3.41	0.45	0.85	0.30
SRF1812P160/12	T160	4.37	4.73	3.07	3.41	0.45	0.85	0.30
SRF1812P160/16	T160	4.37	4.73	3.07	3.41	0.45	0.85	0.30
SRF1812P200	T200	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P200/12	T200	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P250/16	T250	4.37	4.73	3.07	3.41	0.90	1.30	0.30
SRF1812P260	T260	4.37	4.73	3.07	3.41	0.60	1.00	0.30
SRF1812P260/16	T260	4.37	4.73	3.07	3.41	0.90	1.30	0.30
SRF1812P300	T300	4.37	4.73	3.07	3.41	0.60	1.00	0.30

Packaging Options

$I_{hold}(A)$	Quantity
0.1~0.35A, 1.1A/24V, 2~3A	1,500pcs
0.5~1.6A	2,000pcs
1.5A/24V	1,000pcs

Reel packaging per EIA-481-1 standard