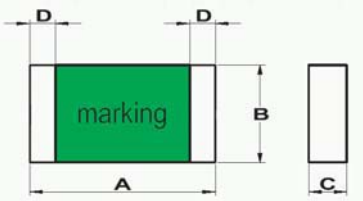
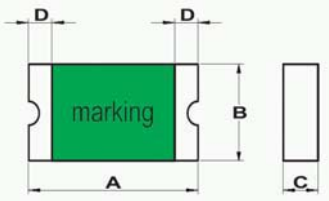
PPTC RESETTABLE FUSE

SMD Type-1812 Series

Construction and Dimension:





Style 1 Style 2 Unit:mm

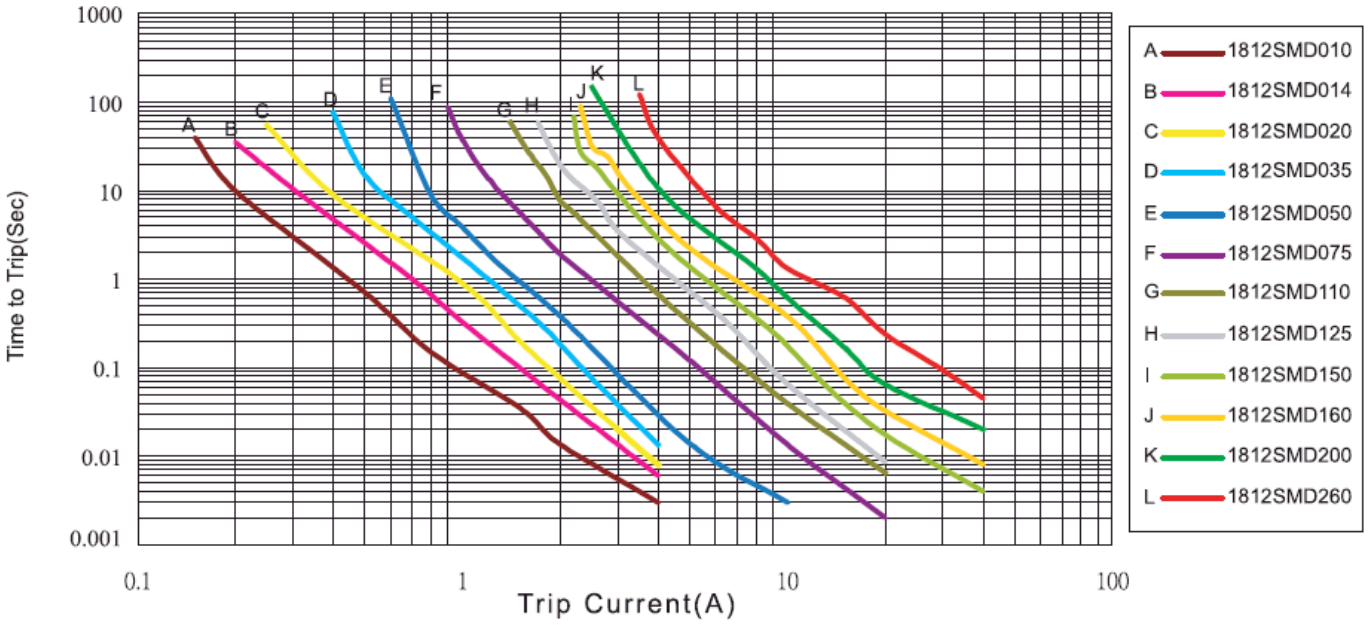
Model	A		B		C		D	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1812SMD010	4.25	4.80	3.00	3.50	0.25	2.00	0.30	1.00
1812SMD014	4.25	4.80	3.00	3.50	0.25	2.00	0.30	1.00
1812SMD020	4.25	4.80	3.00	3.50	0.25	1.80	0.30	1.00
1812SMD035	4.25	4.80	3.00	3.50	0.25	1.50	0.30	1.00
1812SMD050	4.25	4.80	3.00	3.50	0.25	1.30	0.30	1.00
1812SMD075	4.25	4.80	3.00	3.50	0.25	1.30	0.30	1.00
1812SMD075/24	4.25	4.80	3.00	3.50	0.25	1.30	0.30	1.00
1812SMD110	4.25	4.80	3.00	3.50	0.25	1.30	0.30	1.00
1812SMD110/16	4.25	4.80	3.00	3.50	0.25	2.00	0.30	1.00
1812SMD125	4.25	4.80	3.00	3.50	0.25	1.50	0.30	1.00
1812SMD150	4.25	4.80	3.00	3.50	0.25	1.50	0.30	1.00
1812SMD160	4.25	4.80	3.00	3.50	0.25	1.50	0.30	1.00
1812SMD200	4.25	4.80	3.00	3.50	0.25	3.00	0.30	1.00
1812SMD260	4.25	4.80	3.00	3.50	0.25	3.00	0.30	1.00

Electrical Characteristics at 23^0C

Model	V max (Volts)	I max (Amps)	I hold (Amps)	I trip (Amps)	R min (Ω)	R max (Ω)	R1 max (Ω)	P (d) (Watts)	Style
1812SMD010	30.0	10	0.10	0.30	0.700	7.00	17.0	0.8	1
1812SMD014	60.0	10	0.14	0.34	0.600	4.00	8.0	0.8	1
1812SMD020	30.0	10	0.20	0.40	0.400	2.90	6.0	0.8	1
1812SMD035	3.0	40	0.35	0.75	0.200	0.80	3.00	0.8	1
1812SMD050	15.0	40	0.50	1.00	0.150	0.60	1.20	0.8	1
1812SMD075	13.2	40	0.75	1.50	0.110	0.45	0.60	0.8	1
1812SMD075/24	24.0	40	0.75	1.50	0.110	0.45	0.60	0.8	1
1812SMD110	6.0	40	1.10	2.20	0.040	0.15	0.40	0.8	1
1812SMD110/16	16.0	40	1.10	2.20	0.040	0.15	0.40	0.8	1
1812SMD125	6.0	40	1.25	2.50	0.040	0.08	0.25	0.8	2
1812SMD150	6.0	40	1.50	3.00	0.020	0.06	0.20	0.9	2
1812SMD160	6.0	40	1.60	3.20	0.020	0.05	0.20	1.0	2
1812SMD200	6.0	40	2.00	4.00	0.015	0.05	0.15	1.2	2
1812SMD260	6.0	40	2.60	5.20	0.010	0.03	0.10	1.3	

RoHS

Construction and Dimension:



Thermal Derating Chart

TEMP(^{0}C)	- 40	- 20	0	23	40	50	60	70	85
1812SMD010	0.15	0.13	0.11	0.10	0.08	0.08	0.07	0.06	0.05
1812SMD014	0.20	0.18	0.16	0.14	0.12	0.11	0.10	0.08	0.07
1812SMD020	0.29	0.26	0.23	0.20	0.17	0.16	0.14	0.13	0.11
1812SMD035	0.50	0.45	0.40	0.35	0.29	0.26	0.24	0.21	0.19
1812SMD050	0.71	0.66	0.59	0.50	0.43	0.40	0.37	0.31	0.28
1812SMD075	1.00	0.95	0.89	0.75	0.65	0.60	0.54	0.46	0.41
1812SMD075/24	1.00	0.95	0.89	0.75	0.65	0.60	0.54	0.46	0.41
1812SMD110	1.55	1.40	1.30	1.10	0.95	0.88	0.80	0.70	0.61
1812SMD110/16	1.55	1.40	1.30	1.10	0.95	0.88	0.80	0.70	0.61
1812SMD125	1.80	1.60	1.40	1.25	1.10	1.00	0.90	0.80	0.70
1812SMD150	2.05	1.95	1.75	1.50	1.30	1.20	1.10	0.93	0.85
1812SMD160	2.25	2.00	1.85	1.60	1.40	1.29	1.20	0.95	0.90
1812SMD200	2.90	2.60	2.30	2.00	1.70	1.60	1.40	1.25	1.10
1812SMD260	3.65	3.30	2.95	2.60	2.21	2.05	1.83	1.64	1.43

PPTC RESETTABLE FUSE

Definition of Electrical Characteristics

- ☐ V_{max} : Maximum voltage the device can withand without damage at rated current.
- ☐ I_{max} : Maximum fault current the device can withand without damage at rated voltage.
- ☐ I_{hold} : Hold current; Maximum current at which the device will not trip in 23℃ still air.
- ☐ I_{trip} : Trip current; Minimum current at which the device will trip in 23℃ still air.
- ☐ R_{min} : Minimum device resistance in initial state at 23℃.
- ☐ R_{max} : Maximum device resistance in initial state at 23℃.
- ☐ $R1_{max}$: Maximum device resistance at 23℃ measured 1 hours after tripping.
- ☐ $P_{(d)}$: Maximum power dissipated from device when in the tripped state in 23℃still air.

Test and Environmental Characteristics

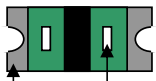
Items	Specification/Condition	Accept Criteria
Initial resistance	In still air at 23℃	$R_{min} \leqq R \leqq R_{max}$
Time to trip	At specified current, V_{max} at 23℃	Refer to time-to-trip chart
Hold current	30 min., at I_{hold}	No trip
Trip endurance	V_{max}, I_{max}, 100 cycles	No arcing or burning
Trip aging	V_{max}, 48 hours	No arcing or burning
Max.device surface temp.	In tripped state	125℃max.
Passive aging	85℃, 1000 hours	± 10% typical resistance change
Humidity aging	85℃, 85% RH, 1000 hours	± 10% typical resistance change
Thermal shock	85℃/-40℃, 10 times	+5 ~ -20% typical resistance change

Ordering Information

1206 SMD 050

- Size
- Surface Mount
- Hold Current I_{hold}
- 035- 150 (0.35A - 1.5A)

Part Marking



Part dentification. Ihold.

e.g.: 03 = 0.35A 030 = for 2920 , 1812 Series
05 = 0.5A 05 = for 1206 Series
07 = 0.75A 7 = for 0805 Series

Sn Plated Cu Temination

Note: All drawing are not in scale and layout may vary.
All oarts dimension is in millimeter unless otherwise specified.
Teminal material is Tin (Sn) plated Copper (Cu)

Agency Approval:
UL File Number: Pending
c-UL File Number: Pending
TUV File Number: Pending

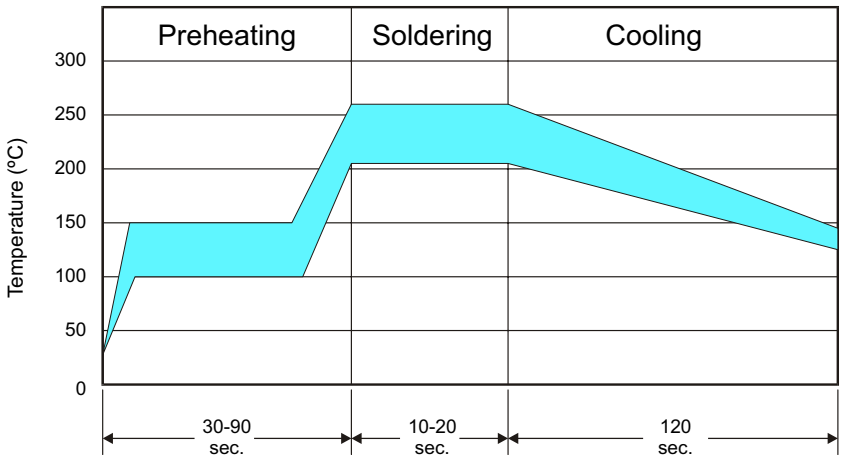
RoHS

Product Packing

Type	Series	Packing type	Quantity	
SMD	0805SMD	Reel Packahing	3000	Reel
	1206SMD		3000	
	1812SMD		1500	
	2920SMD		2000	

Reflow

- The recommended reflow profile is shown as the figure at right hand side.
- A maximum solder paste of thickness 0.25mm is recommended.
- Hot air, infra-red, vapor phase reflowing are recommended.

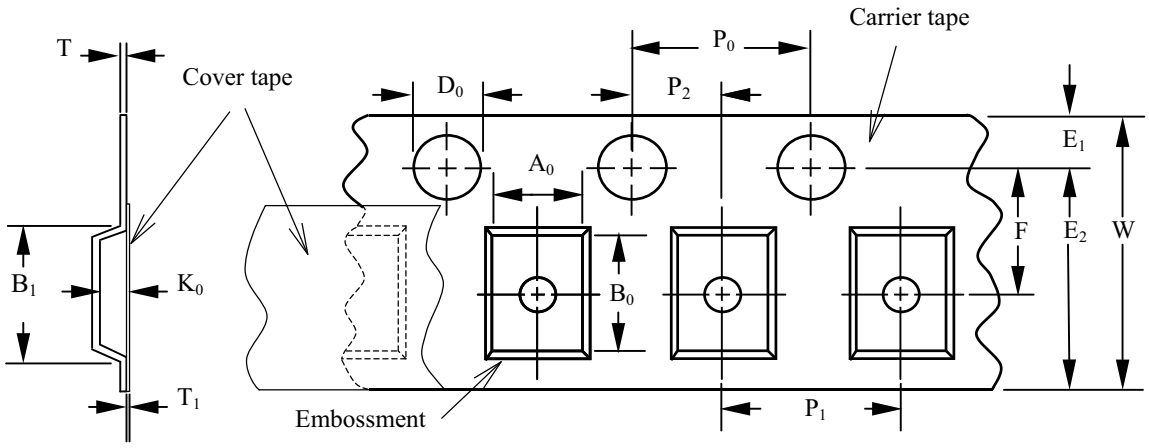


WARNING:

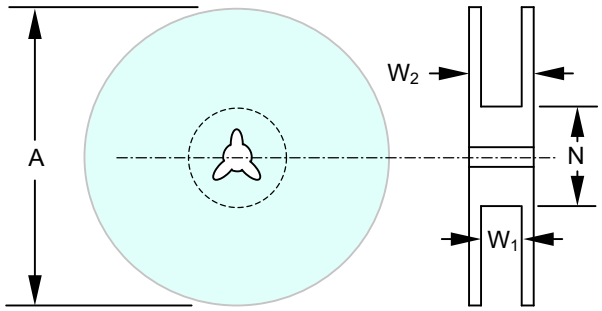
- Devices may not meet specifications if reflow temperatures exceed the recommended profile.
- Operation beyond maximum ratings or improper use may result in device damage and possible electrical arcing, flaming or explosion.
- The devices may not meet specified ratings if storage conditions exceeded 40°C and 70% relative humidity.
- The devices are intended to protect against occasional over-current or over-temperature fault conditions and should not be used when there are repeated fault conditions or prolonged trip events.
- The devices should not be placed under pressure or installed in spaces that would prevent thermal expansion, due to any prohibition of thermal expansion of the devices might result improper protection of fault conditions.
- reserves the right to change any information or specification within this data book without notice.

RoHS

Tape & Reel Packaging Specification per EIA481-1
Type: 1812SMD



Parameter as EIA481-1	Dimensions (mm)
W	12.00 ± 0.30
P_0	4.00 ± 0.10
P_1	8.00 ± 0.10
P_2	2.00 ± 0.05
A_0	3.50 ± 0.23
B_0	5.10 ± 0.15
B_1 max.	8.2
D_0	1.50 +0.10/-0.00
F	5.50 ± 0.05
E_1	1.75 ± 0.10
E_2 min.	10.25
T max.	0.6
T_1 max.	0.1
K_0	0.90 ± 0.15



Parameter as EIA481-1	Dimensions (mm)
A max.	185
N min.	50
W1	12.4 +2.0/-0.0
W2 max.	18.4

RoHS