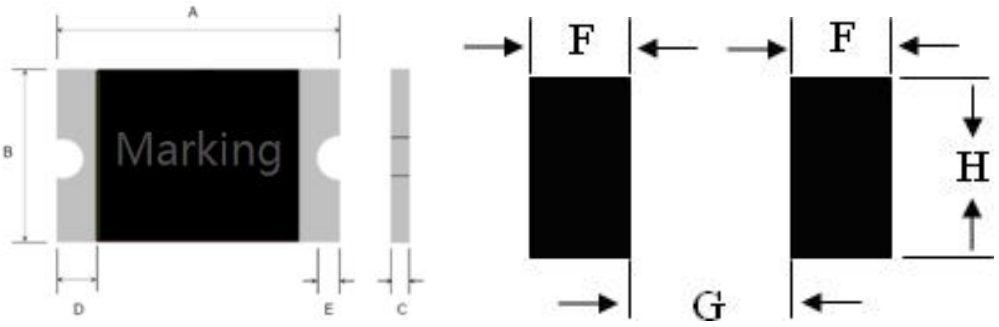
PPTC SMD0805L Series Surface-mount Devices

Features:

- RoHS Compliant ＆ Halogen Free
- Faster tripping, 0805 Dimension, Surface mountable, Solid state
- Maximum Voltage：6/12V
- Operating Current: 0.75A~4A，
- Operating Temperature：-40℃~ 85℃

Product Dimensions



Unit ： mm

Model	Dimensions（mm）							
	A(min)	A(max)	B(min)	B(max)	C(min)	C(max)	D(min)	E(min)
SMD0805L-075-6V	2.0	2.2	1.2	1.5	0.3	0.7	0.20	0.1
SMD08050L-75-12V	2.0	2.2	1.2	1.5	0.3	0.7	0.20	0.1
SMD0805L-110-6V	2.0	2.2	1.2	1.5	0.3	0.7	0.20	0.1
SMD0805L-110-12V	2.0	2.2	1.2	1.5	0.3	0.7	0.20	0.1
SMD0805L-125-6V	2.0	2.2	1.2	1.5	0.3	0.7	0.20	0.1
SMD0805L-125-12V	2.0	2.2	1.2	1.5	0.3	0.7	0.20	0.1
SMD0805L-150-6V	2.0	2.2	1.2	1.5	0.4	1.0	0.20	0.1
SMD0805L-150-12V	2.0	2.2	1.2	1.5	0.4	1.0	0.20	0.1
SMD0805L-175-6V	2.0	2.2	1.2	1.5	0.4	1.0	0.20	0.1
SMD0805L-175-12V	2.0	2.2	1.2	1.5	0.4	1.0	0.20	0.1
SMD0805L-200-6V	2.0	2.2	1.2	1.5	0.4	1.2	0.20	0.1
SMD0805L-200-12V	2.0	2.2	1.2	1.5	0.4	1.2	0.20	0.1
SMD0805L-260-6V	2.0	2.2	1.2	1.5	0.4	1.2	0.20	0.1
SMD0805L-260-12V	2.0	2.2	1.2	1.5	0.4	1.2	0.20	0.1
SMD0805L-300-6V	2.0	2.2	1.2	1.5	0.5	1.4	0.20	0.1
SMD0805L-300-12V	2.0	2.2	1.2	1.5	0.5	1.4	0.20	0.1
SMD0805L-350-6V	2.0	2.2	1.2	1.5	0.5	1.4	0.20	0.1
SMD0805L-350-12V	2.0	2.2	1.2	1.5	0.5	1.4	0.20	0.1
SMD0805L-380-6V	2.0	2.2	1.2	1.5	0.6	1.6	0.20	0.1
SMD0805L-380-12V	2.0	2.2	1.2	1.5	0.6	1.6	0.20	0.1
SMD0805L-400-6V	2.0	2.2	1.2	1.5	0.6	1.6	0.20	0.1
SMD0805L-400-12V	2.0	2.2	1.2	1.5	0.6	1.6	0.20	0.1

Recommended Solder Pad Layout Dimensions (mm)

Device	F	G	H
	Normal Value	Normal Value	Normal Value
0805 Series	1	1.2	1.5

Thermal Derating Chart-IH（A）

Model	Maximum ambient operating temperature (℃)								
	-40	-20	0	25	40	50	60	70	85
SMD0805L-075-6V	1.07	0.94	0.88	0.75	0.66	0.63	0.60	0.48	0.34
SMD08050L-75-12V	1.07	0.94	0.88	0.75	0.66	0.63	0.60	0.48	0.34
SMD0805L-110-6V	1.57	1.38	1.29	1.10	0.98	0.92	0.88	0.71	0.50
SMD0805L-110-12V	1.57	1.38	1.29	1.10	0.98	0.92	0.88	0.71	0.50
SMD0805L-125-6V	1.78	1.57	1.47	1.25	1.11	1.05	1.00	0.81	0.57
SMD0805L-125-12V	1.78	1.57	1.47	1.25	1.11	1.05	1.00	0.81	0.57
SMD0805L-150-6V	2.14	1.88	1.76	1.50	1.33	1.25	1.20	0.97	0.68
SMD0805L-150-12V	2.14	1.88	1.76	1.50	1.33	1.25	1.20	0.97	0.68
SMD0805L-175-6V	2.50	2.19	2.05	1.75	1.55	1.46	1.40	1.13	0.79
SMD0805L-175-12V	2.50	2.19	2.05	1.75	1.55	1.46	1.40	1.13	0.79
SMD0805L-200-6V	2.85	2.51	2.35	2.00	1.77	1.67	1.60	1.29	0.91
SMD0805L-200-12V	2.85	2.51	2.35	2.00	1.77	1.67	1.60	1.29	0.91
SMD0805L-260-6V	3.71	3.25	3.06	2.60	2.30	2.17	2.08	1.68	1.18
SMD0805L-260-12V	3.71	3.25	3.06	2.60	2.30	2.17	2.08	1.68	1.18
SMD0805L-300-6V	4.29	3.75	3.53	3.00	2.65	2.50	2.40	1.94	1.36
SMD0805L-300-12V	4.29	3.75	3.53	3.00	2.65	2.50	2.40	1.94	1.36
SMD0805L-350-6V	5.00	4.38	4.12	3.50	3.09	2.92	2.80	2.26	1.59
SMD0805L-350-12V	5.00	4.38	4.12	3.50	3.09	2.92	2.80	2.26	1.59
SMD0805L-380-6V	5.43	4.76	4.47	3.80	3.35	3.17	3.04	2.45	1.73
SMD0805L-380-12V	5.43	4.76	4.47	3.80	3.35	3.17	3.04	2.45	1.73
SMD0805L-400-6V	5.72	5.00	4.71	4.00	3.53	3.33	3.20	2.59	1.81
SMD0805L-400-12V	5.72	5.00	4.71	4.00	3.53	3.33	3.20	2.59	1.81

Electrical Characteristic

Model	V_{max}	I_{max}	I_{hold}	I_{trip}	Pd Max.	Maximum Time to Trip		Resistance（Ω）	
	(Vdc)	(A)	(A)	(A)	(W)	Current（A）	Time（S）	Rmin	R1max
SMD0805L-075-6V	6.0	50.0	0.75	1.5	0.7	8.0	1.0	0.020	0.160

SMD08050L-75-12V	12.0	50.0	0.75	1.5	0.7	8.0	1.0	0.020	0.160
SMD0805L-110-6V	6.0	50.0	1.1	2.2	0.7	8.0	1.0	0.018	0.110
SMD0805L-110-12V	12.0	50.0	1.1	2.2	0.7	8.0	1.0	0.018	0.110
SMD0805L-125-6V	6.0	50.0	1.25	2.5	0.7	8.0	1.0	0.016	0.100
SMD0805L-125-12V	12.0	50.0	1.25	2.5	0.7	8.0	1.0	0.016	0.100
SMD0805L-150-6V	6.0	50.0	1.5	3.0	0.7	8.0	1.0	0.008	0.065
SMD0805L-150-12V	12.0	50.0	1.5	3.0	0.7	8.0	1.0	0.008	0.065
SMD0805L-175-6V	6.0	50.0	1.75	3.5	0.7	8.75	2.0	0.008	0.055
SMD0805L-175-12V	12.0	50.0	1.75	3.5	0.7	8.75	2.0	0.008	0.055
SMD0805L-200-6V	6.0	50.0	2.0	4.0	0.7	10.0	2.0	0.006	0.045
SMD0805L-200-12V	12.0	50.0	2.0	4.0	0.7	10.0	2.0	0.006	0.045
SMD0805L-260-6V	6.0	50.0	2.6	5.2	0.7	13.0	2.0	0.003	0.035
SMD0805L-260-12V	12.0	50.0	2.6	5.2	0.7	13.0	2.0	0.003	0.035
SMD0805L-300-6V	6.0	50.0	3.0	6.0	0.8	15.0	2.0	0.003	0.030
SMD0805L-300-12V	12.0	50.0	3.0	6.0	0.8	15.0	2.0	0.003	0.030
SMD0805L-350-6V	6.0	50.0	3.5	7.0	0.8	17.5	2.0	0.003	0.025
SMD0805L-350-12V	12.0	50.0	3.5	7.0	0.8	17.5	2.0	0.003	0.025
SMD0805L-380-6V	6.0	50.0	3.8	7.6	0.8	19.0	2.0	0.003	0.020
SMD0805L-380-12V	12.0	50.0	3.8	7.6	0.8	19.0	2.0	0.003	0.020
SMD0805L-400-6V	6.0	50.0	4.0	8.0	0.8	20.0	2.0	0.003	0.015
SMD0805L-400-12V	12.0	50.0	4.0	8.0	0.8	20.0	2.0	0.003	0.015

Test Procedures And Requirements

Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air at 25℃	Rimin≤R≤R1max
Time to Trip	Specified current, V_{MAX},25℃	T≤Maximum Time to Trip
Hold Current	30min, at I_H, 25℃	No trip
Trip Cycle Life	V_{MAX}, I_{MAX}, 100 cycles	No arcing or burning
Trip Endurance	V_{MAX}, I_{MAX}, 1 hour	No arcing or burning

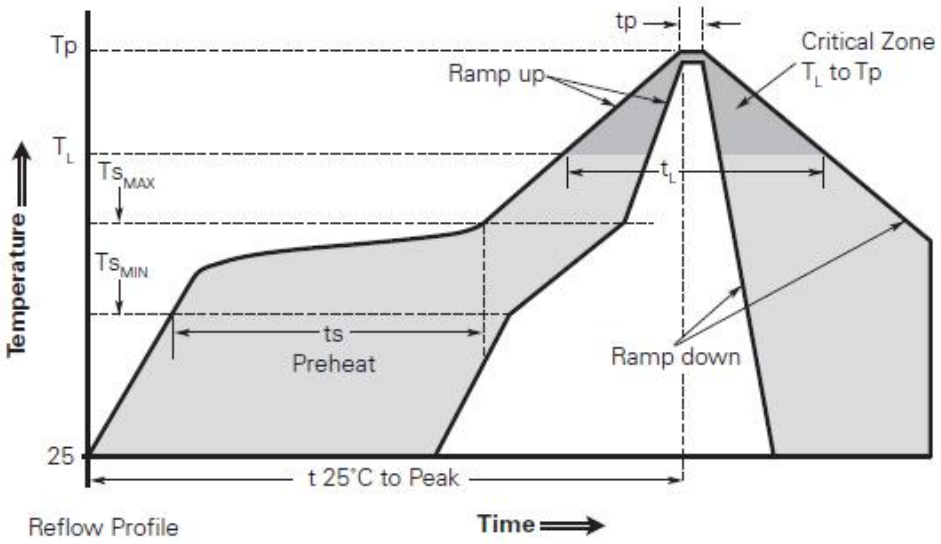
Physical Characteristics

Terminal Materials	Tin-Plated Nickle-copper
Soldering Zone	Meets EIA specification RS 186-9E and ANSI/J-STD-002 Category 3.
Moisture Sensitivity	Level 2a, per IPC/JEDEC J-STD 020C

Physical Characteristics and Environmental Specifications

Test	Conditions	Resistance change
Passive aging	85℃,1000hours	±10%
Humidity aging	85℃/85%RH.1000 hours	±5%
Thermal shock	MIL-STD-202,Method 107G +85℃/-40℃,20times	-30% typical resistance change
Resistance to solvent	MIL-STD-202,Method 215	no change
Vibration	ML-STD-883C,Test Condition A	No chage

Solder Reflow Conditions



Profile Feature	Pb-Free Assembly
●Average ramp up rate(Ts_{MAX} to Tp)	3℃/Second max
Preheat	
●Temperature min (Ts_{MIN})	150℃
●Temperature max (Ts_{MAX})	200℃
●Time(Ts_{MIN} to Ts_{MAX})	60-120 Seconds
Time maintained above:	
●Temperature(T_L)	217℃
●Time(T_L)	60-150 Seconds
●Peak/Classification temperature(Tp)	260℃
Time within5℃ofactual peak temperature	
●Time(Tp)	30 Seconds max
●Ramp down rate	3℃Second max
●Time 25℃ to peak temperature	8 minutes max

- Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment for lead-free.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25mm (0.010inch).
- Devices can be cleaned using standard industry methods and solvents.
- Soldering temprature profile meets RoHs leadfree process.

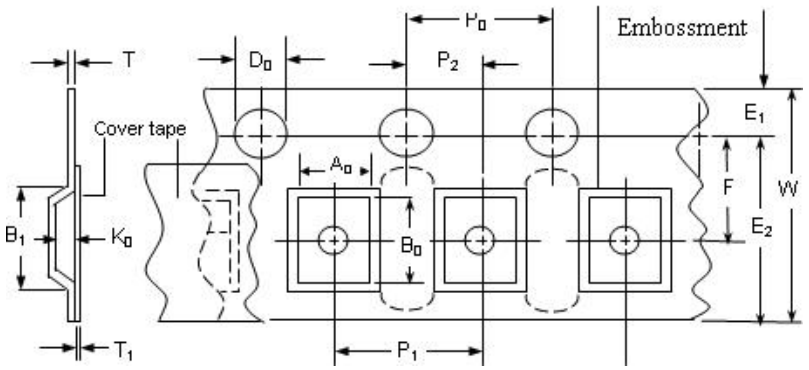
Note： All temperatures refer topside of the package.measured on The package body surface

Notes: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements

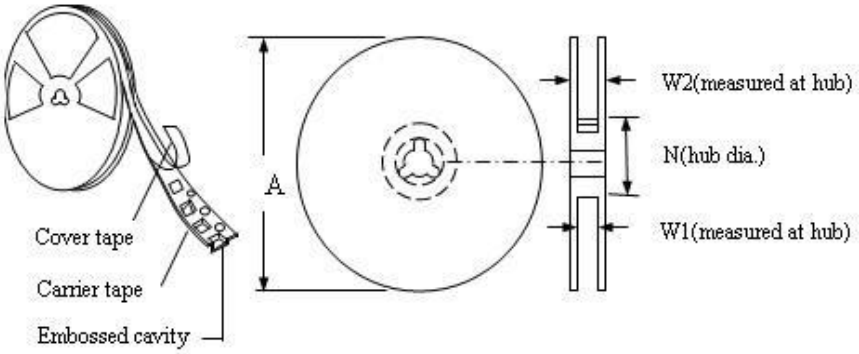
Tape Specifications and Reel Dimensions

Covering Specifications EIA 481-1	
W	8.00± 0.30
P0	4.0 ± 0.10
P1	4.0± 0.10
P2	2.0 ± 0.05
A0	1.65 ± 0.10
B0	2.35 ± 0.10
D0	1.55± 0.05
F	3.50± 0.05
E1	1.75 ± 0.10
T	0.20± 0.10
Leader min.	390
Trailer min.	160
Reel Dimensions	
A	178±1.0
N	59±1
W1	8.5+1.0/-0.2
W2	12.0±1

EIA Tape Component Dimentions



EIA Reel Dimentions



Electrical Specifications:

I_H=Hold current:maximum current at which the device will not trip at 25℃ still air.
I_T=Trip current:minimum current at which the device will nalways at 25℃ still air.
V_{max}=Maximum voltage device can withstand without damage at rated current.
I_{max}=Maximum fault current device can withstand tithout damage at rated voltage.
T_{trip}=Maximum time to trip(s) at assigned current.
P_d=Typical power dissipation:typical amount of power dissipated by the decice when in state air environment.
R_{min}=Minimum device resistance at 25℃ prior to tripping.
R_{max}=Maximum device resistance at 25℃ prior to tripping.

Warning:

PPTC devices are intended for protection against occasional over-current or over-temperature fault conditions,and should not be used when repeated fault conditions are anticipated.Operation beyond maximum tatings of improper use may result in device damage and possible electrical arcing and flame.