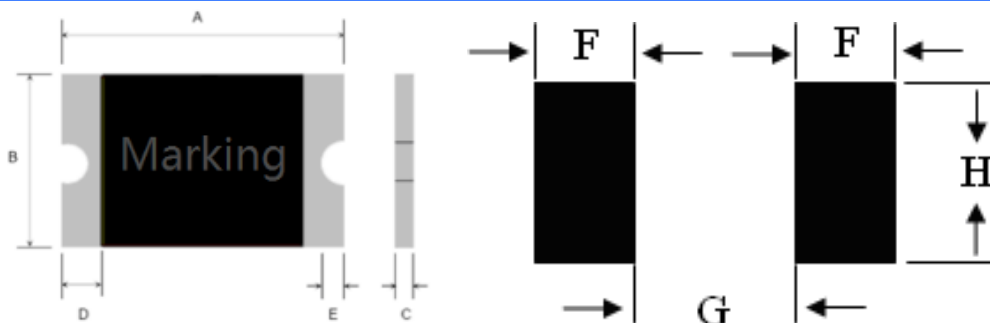


PPTC SMD0805L Series Surface-mount Devices

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°C~ 85°C

Product Dimensions



Unit : mm

Model	Dimensions (mm)							
	A(min)	A(max)	B(min)	B(max)	C(min)	C(max)	D(min)	E(min)
SMD0805L-075-06V	2.0	2.2	1.2	1.5	0.3	0.7	0.20	0.1
SMD0805L-075-12V	2.0	2.2	1.2	1.5	0.3	0.7	0.20	0.1
SMD0805L-110-06V	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-125-06V	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-150-06V	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-175-06V	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-200-06V	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-260-06V	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-300-06V	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-350-06V	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-380-06V	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-400-06V	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 (°C)								
	-40	-20	0	25	40	50	60	70	85
SMD0805L-075-06V	1.07	0.94	0.88	0.75	0.66	0.63	0.60	0.48	0.34
SMD0805L-075-12V	1.07	0.94	0.88	0.75	0.66	0.63	0.60	0.48	0.34
SMD0805L-110-06V	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-125-06V	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-150-06V	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-175-06V	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-200-06V	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-260-06V	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-300-06V	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-350-06V	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-380-06V	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-400-06V	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-075-06V	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-110-06V	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-125-06V	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-150-06V	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-175-06V	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-200-06V	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-260-06V	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-300-06V	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-350-06V	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-380-06V	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-400-06V	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°C	$R_{imin} \leq R \leq R_{1max}$
Time to Trip	Specified current, $V_{MAX}, 25^\circ C$	$T \leq$ Maximum Time to Trip
Hold Current	30min, at $I_H, 25^\circ C$	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

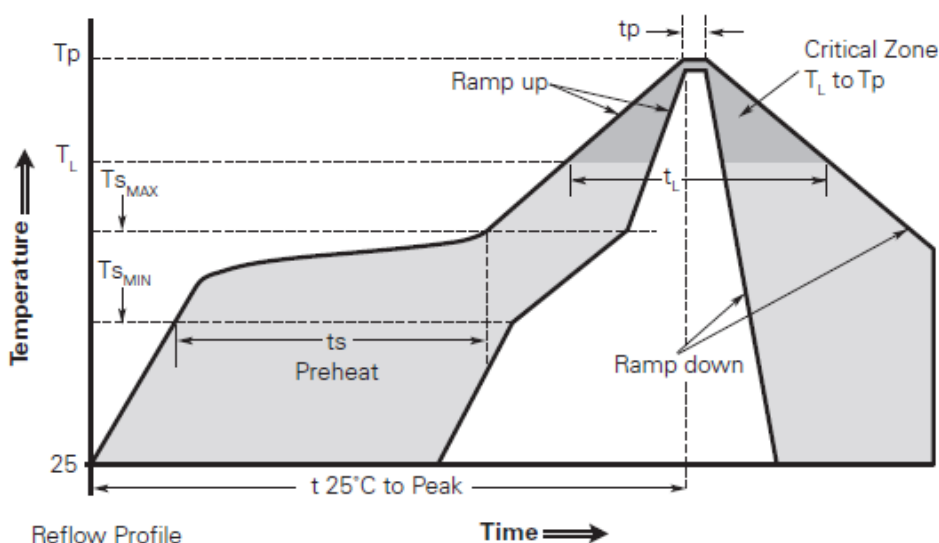
Physical Characteristics

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°C, 1000hours	±10%
Humidity aging	85°C/85%RH. 1000 hours	±5%
Thermal shock	MIL-STD-202, Method 107G +85°C/-40°C, 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

- Average ramp up rate ($T_{S_{MAX}}$ to T_P)

Preheat

- Temperature min ($T_{S_{MIN}}$) 150°C
- Temperature max ($T_{S_{MAX}}$) 200°C
- Time ($T_{S_{MIN}}$ to $T_{S_{MAX}}$) 60-120 Seconds

Time maintained above:

- Temperature (T_L) 217°C
- Time (T_L) 60-150 Seconds
- Peak/Classification temperature (T_P) 260°C

Time within 5°C of actual peak temperature

- Time (T_P) 30 Seconds max
- Ramp down rate 3°C/Second max
- Time 25°C to peak temperature 8 minutes max

Note: All temperatures refer to top side of the package, measured on the package body surface

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

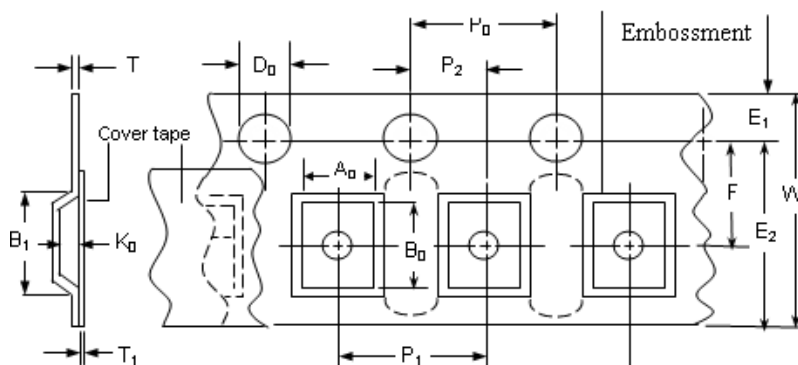
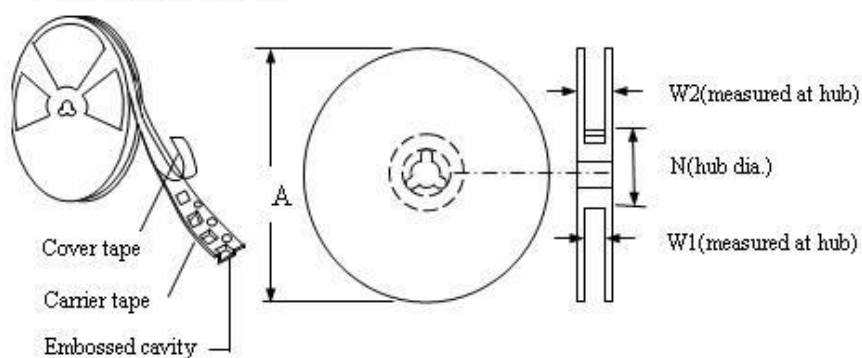
Pb-Free Assembly

3°C/Second 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 temperature profile meets RoHS leadfree process.

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 Dimensions

EIA Reel Dimensions


Electrical Specifications:

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 nalways at 25°C 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°C prior to tripping.

R_{max} =Maximum device resistance at 25°C 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 ratings of improper use may result in device damage and possible electrical arcing and flame.
