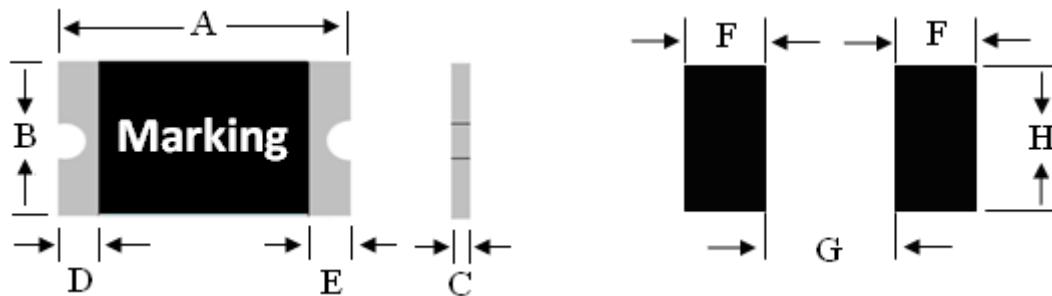


### Features:

- ✧ RoHS Compliant & Halogen Free
- ✧ Faster tripping, 0603 Dimension, Surface mountable, Solid state
- ✧ Operating Current: 0.35A~3.0A, @25°C
- ✧ Maximum Voltage: 6V
- ✧ Operating Temperature: -40°C~ 85°C
- ✧ Certification: ROHS



### Product Dimensions (mm)



Part number	A		B		C		D	E
	Min	Max	Min	Max	Min	Max	Min	Min
SMD0603P035L	1.45	1.85	0.65	1.05	0.3	0.7	0.15	0.1
SMD0603P050L	1.45	1.85	0.65	1.05	0.3	0.7	0.15	0.1
SMD0603P075L	1.45	1.85	0.65	1.05	0.3	0.7	0.15	0.1
SMD0603P100L	1.45	1.85	0.65	1.05	0.4	1.0	0.15	0.1
SMD0603P125L	1.45	1.85	0.65	1.05	0.4	1.0	0.15	0.1
SMD0603P150L	1.45	1.85	0.65	1.05	0.5	1.2	0.15	0.1
SMD0603P175L	1.45	1.85	0.65	1.05	0.5	1.2	0.15	0.1
SMD0603P200L	1.45	1.85	0.65	1.05	0.7	1.4	0.15	0.1
SMD0603P260L	1.45	1.85	0.65	1.05	0.7	1.4	0.15	0.1
SMD0603P300L	1.45	1.85	0.65	1.05	0.7	1.4	0.15	0.1

## Recommended Solder Pad Layout Dimensions (mm)

Device	F	G	H
	Normal Value	Normal Value	Normal Value
0603 Series	1.0	0.8	1.0

## Electrical Characteristics

Model	V <sub>MAX</sub> (V)	I <sub>MAX</sub> (A)	I <sub>H</sub> (A)	I <sub>T</sub> (A)	P <sub>D</sub> (W)	Maximum Time-to-Trip		Resistance	
						Current	Time	R <sub>iMIN</sub>	R <sub>lMAX</sub>
						(A)	(Sec)	(Ω)	(Ω)
SMD0603P035L	6.0	50.0	0.35	0.7	0.5	8.0	0.1	0.15	1.0
SMD0603P050L	6.0	50.0	0.5	1.0	0.5	8.0	0.6	0.07	0.4
SMD0603P075L	6.0	50.0	0.75	1.5	0.5	8.0	1.0	0.055	0.25
SMD0603P100L	6.0	50.0	1.0	2.0	0.5	8.0	2.0	0.045	0.12
SMD0603P125L	6.0	50.0	1.25	2.5	0.5	8.0	3.0	0.035	0.10
SMD0603P150L	6.0	50.0	1.5	3.0	0.5	8.0	4.0	0.025	0.08
SMD0603P175L	6.0	50.0	1.75	3.5	0.5	8.0	5.0	0.015	0.07
SMD0603P200L	6.0	50.0	2.0	4.0	0.5	8.0	5.0	0.012	0.06
SMD0603P260L	6.0	50.0	2.6	5.2	0.5	8.0	5.0	0.008	0.05
SMD0603P300L	6.0	50.0	3.0	6.0	0.5	8.0	5.0	0.008	0.04

## Thermal Derating Chart-I<sub>H</sub>(A)

Model	Maximum ambient operating temperature (°C)								
	-40	-20	0	25	40	50	60	70	85
SMD0603P035L	0.46	0.40	0.37	0.35	0.29	0.25	0.24	0.20	0.14
SMD0603P050L	0.66	0.57	0.53	0.50	0.41	0.36	0.34	0.29	0.20
SMD0603P075L	0.99	0.86	0.79	0.75	0.62	0.54	0.51	0.43	0.30
SMD0603P100L	1.31	1.14	1.06	1.00	0.83	0.71	0.69	0.57	0.40
SMD0603P125L	1.64	1.43	1.32	1.25	1.04	0.89	0.86	0.71	0.50
SMD0603P150L	1.97	1.71	1.59	1.50	1.24	1.07	1.03	0.86	0.60
SMD0603P175L	2.30	2.00	1.85	1.75	1.45	1.25	1.20	1.00	0.70
SMD0603P200L	2.63	2.29	2.11	2.00	1.66	1.43	1.37	1.14	0.80
SMD0603P260L	3.42	2.97	2.75	2.60	2.15	1.86	1.78	1.49	1.04
SMD0603P300L	3.94	3.43	3.17	3.00	2.49	2.14	2.06	1.71	1.20

## Test Procedures and Requirements

Test Item	Test Conditions	Accept/Reject Criteria
Initial Resistance	In still air at $25 \pm 2^\circ\text{C}$	$R_{i_{min}} \leq R \leq R_{i_{max}}$
Time to Trip	Specified current, $V_{max}$ , $25 \pm 2^\circ\text{C}$	$T \leq$ Maximum Time to Trip
Holding Current	30min, at $I_H$ , @ $25 \pm 2^\circ\text{C}$	No trip
Trip Endurance	$V_{max}$ , 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

## Environmental Specifications

Test Item	Test Conditions	Resistance Change
Passive Aging	$85^\circ\text{C}$ , 1000 hours	$\pm 10\%$ typical
Humidity Aging	$85^\circ\text{C}/85\%\text{RH}$ , 100 hours	$\pm 5\%$ typical
Thermal Shock	MIL-STD-202, Method 107G $+85^\circ\text{C}/-40^\circ\text{C}$ , 20 times	-30% typical
Solvent Resistance	MIL-STD-202, Method 215	No change
Vibration	ML-STD-883C, Test Condition A	No change

## Electrical Specifications

$I_H$ =Hold current: Maximum current at which the device will not interrupt in  $25^\circ\text{C}$  still air.

$I_T$ =Trip current: Minimum current at which the device from low resistance to high resistance in  $25^\circ\text{C}$  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.

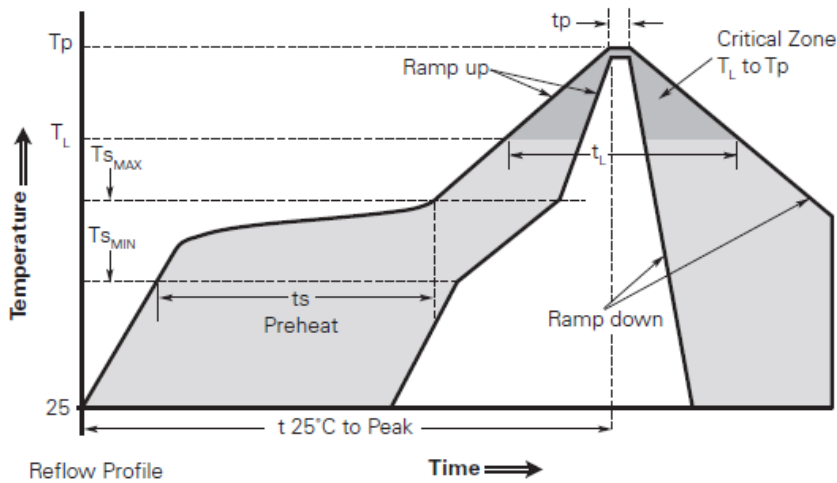
Maximum Time-to-trip: Maximum time to trip at assigned current.

$P_D$ =Typical power dissipation: Typical amount of power dissipated from the device when in  $25^\circ\text{C}$  still air environment.

$R_{i_{MIN}}$ =Minimum resistance of device at  $25^\circ\text{C}$  prior to tripping.

$R_{i_{MAX}}$  = Maximum device resistance is measured one hour post reflow.

## Solder Reflow Profiles



Profile Feature	Pb-Free Assembly
<b>Average ramp up rate (<math>T_{s\_MAX}</math> to <math>T_p</math>)</b>	3°C/second max.
<b>Preheat</b>	
• 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
<b>Time maintained above:</b>	
• Temperature ( $T_l$ )	217°C
• Time ( $T_l$ )	60-150 seconds
<b>Peak/Classification temperature (<math>T_p</math>)</b>	260°C
<b>Time within 5°C of actual peak temperature</b>	
Time ( $T_p$ )	30 seconds max.
<b>Ramp down rate</b>	3°C/second max.
<b>Time 25°C to peak temperature</b>	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.

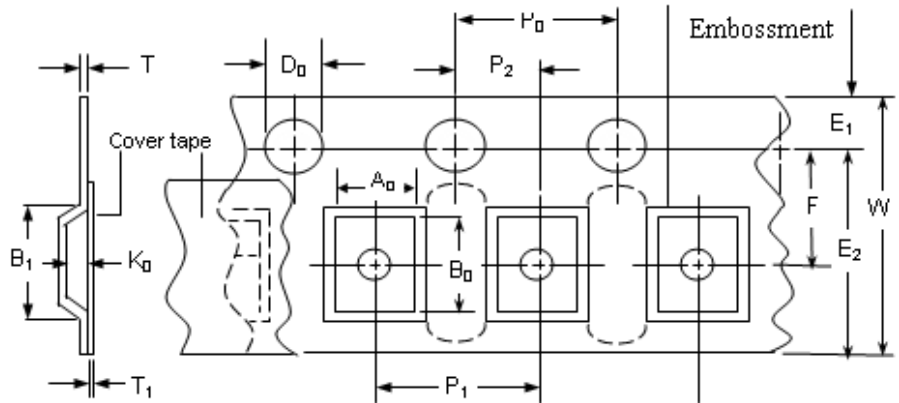
Note 1: All temperature refer to topside of the package, measured on the package body surface.

Note 2: If reflow temperature exceed the recommended profile, devices may not meet the performance requirements.

## Tape Specifications and Reel Dimensions

Covering Specifications EIA 481-1	
W	8.0± 0.1
P <sub>0</sub>	4.0 ± 0.1
P <sub>1</sub>	4.0± 0.10
P <sub>2</sub>	2.0 ± 0.05
A <sub>0</sub>	0.95± 0.10
B <sub>0</sub>	1.85± 0.05
D <sub>0</sub>	1.55± 0.05
F	3.5 ± 0.05
E <sub>1</sub>	1.75 ± 0.10
T	0.20± 0.02
Leader min.	390
Trailer min.	160
Reel Dimensions	
A	178 ± 1
N	59 ± 1
W <sub>1</sub>	8.5+1.0/-0.2
W <sub>2</sub>	12.0±1

### EIA Tape Component Dimensions



### EIA Reel Dimensions

