Polymeric Positive Temperature Coefficient Thermistor

Features

- ✧ Surface Mount Devices
- ✧ Lead free device
- ✧ Size 3.8*1.8 mm/0.15*0.07 inch
- ✧ Surface Mount packaging for automated assembly

Applications

- ✧ Computer mother board, Modem. USB hub
- ✧ PDAs & Charger, Analog & digital line card
- ✧ Digital cameras, Disk drivers, CD-ROMs

Mechanical Data

- ✧ RoHS Compliant

Electrical Characteristics

Model	V_{max} (Vdc)	I_{max} (A)	I_{hold} @25°C (A)	I_{trip} @25°C (A)	P_d Typ. (W)	Maximum Time To Trip		Resistance		Agency Approval	
						Current (A)	Time (Sec)	Rimin (Ω)	R1max (Ω)	UL	TUV
OVmSMD1507450-12V	12	50	4.5	9.0	1.5	22.5	2.0	0.0020	0.014		

Ihold = Hold Current. Maximum current device will not trip in 25°C still air.
Itrip = Trip Current. Minimum current at which the device will always trip in 25°C still air.
Vmax = Maximum operating voltage device can withstand without damage at rated current (Imax).
Imax = Maximum fault current device can withstand without damage at rated voltage (Vmax).
Pd = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage. **Rimin/max** = Minimum/Maximum device resistance prior to tripping at 25°C.
$R1_{max}$ = Maximum device resistance is measured one hour post reflow.
CAUTION : Operation beyond the specified ratings may result in damage and possible arcing and flame.

Environmental Specifications

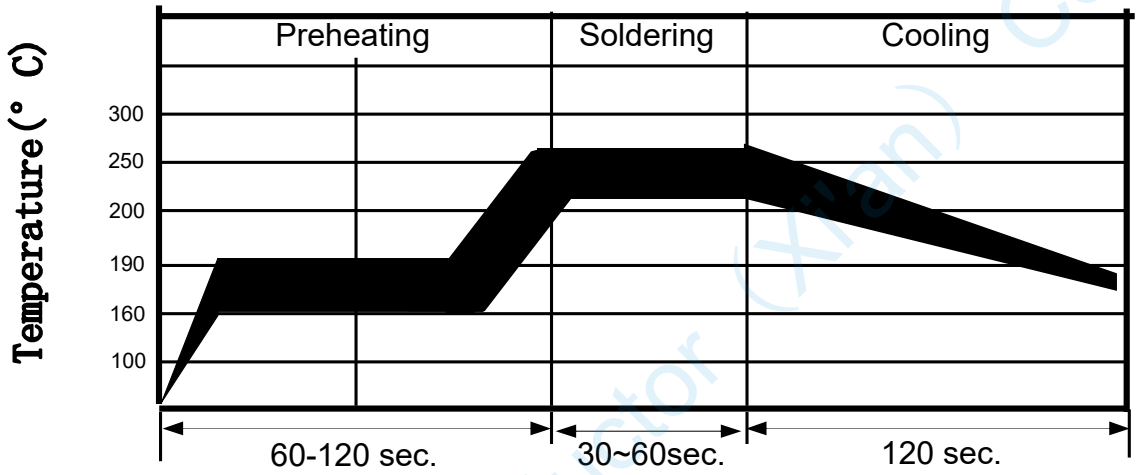
Test	Conditions
Passive aging	+85°C, 1000 hrs.
Humidity aging	+85°C, 85% R.H. , 168 hours
Thermal shock	+85°C to -40°C, 20 times
Resistance to solvent	MIL-STD-202,Method 215
Vibration	MIL-STD-202,Method 201
Ambient operating conditions : - 40 °C to +85 °C	
Maximum surface temperature of the device in the tripped state is 125 °C	
In case of special use, please contact our engineer	

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Thermal Derating(Hold Current (A) at Ambient Temperature (℃))

Model	Maximum ambient operating temperature (Tmao) vs. hold current (Ihold)								
	-40℃	-20℃	0℃	25℃	40℃	50℃	60℃	70℃	85℃
OVmSMD1507450-12V	6.55	5.95	5.48	4.50	4.10	3.65	3.30	3.00	2.45

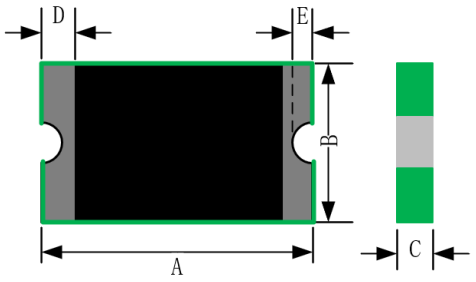
Solder Reflow Recommendation



・Recommended reflow methods：IR, vapor phase oven, hot air oven.
・Devices are not designed to be wave soldered to the bottom side of the board.
・Recommended maximum paste thickness is 0.25 mm (0.010 inch).
・Devices can be cleaned using standard method and solvents.
Note：If reflow temperatures exceed the recommended profile,devices may not meet the performance requirements.

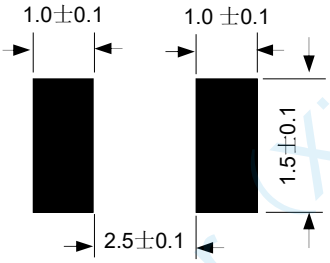
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Product Dimensions in Millimeter



Model	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
OVmSMD1507450-12V	3.85	4.25	1.65	2.05	0.7	1.10	0.05	0.05

Recommend PCB Layout(mm)



Termination Pad Characteristics

Terminal pad materials： Tin-plated Nickel-Copper

Terminal pad solderability ： Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3

Rework

Use standard industry practices, the removal device must be replaced with a fresh one.

Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVmSMD1507450-12V	GREEN	T/R	7 inch	4k/reel	10reel= 40k/box	4boxes=160k/carton

Warning

1. Operation beyond the maximum voltage or current may result in device damage and possible electrical arcing or flame.
2. Hold current at all temperatures specified in the SPEC is the conventional performance of PTC obtained by one time reflow welding. PTC can hold 1 hour under current conditions at a given temperature. This current is not the condition of long-term charging or discharging current for this type of PTC.
3. The PTC is thermal sensitive device. It is recommended not to design any heat source devices around it to reduce the outside heat source impact.
4. SMD PTC is designed for SMT processing which applies reflow soldering.
5. recommended curve for reference. If the reflow soldering temperature exceeds the recommended value, the PTC might be damaged. Hand welding PTC is prohibited. Heat gun is not allowed to use during the circuit board components or terminals rework .
6. When mounting or using PTC, it is not recommended to use circuit board washer water or other cleaning agent. If cleaning is required, it is necessary to verify the applicability of various cleaning agents, washboard water and solvents, and confirm that they will not affect the PTC performance . The known chemicals that impacts PTC include but not limited to ethers, benzene homolog, ketones, lipids and derivates that is of strong solubleness and ruinous. Please place the product in open environment for at least 24 hours to volatilize solvents residuals.
7. In charging terminal application, PP type material is recommended to use as inner membrane and TPE and PVC type material is inhibited.
8. Please do not smash, clamp, pull, dent or twist by tool during assembling process otherwise it might be a cause of the performance degradation.

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