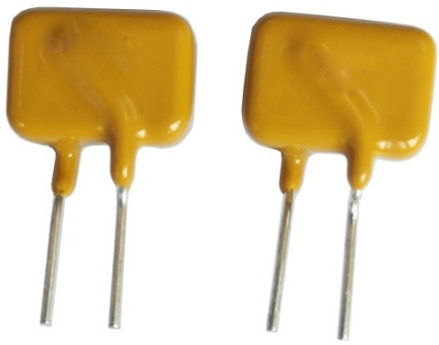
SM600 Series

POSITIVE THERMAL COEFFICIENT(PTC)

Description

Positive Thermal Coefficient devices(PTC),provide over-current protection for electrical and electronic devices. They function using conducting strips of metal imbedded inside polymers. Under normal conditions, the devices resistance is near zero, but over-current conditions will heat the PTC and expand the polymer, increasing the impedance. When current returns to normal, the components cool down, returning to their original shape and very low levels of resistance.



Features

- I(hold): 0.11~0.16A
- 600V Operating voltages
- Radial leaded devices.
- Over-current protection
- Very high voltage surge capabilities.
- Available in lead-free version.
- Fast time–to–trip
- RoHS compliant, Lead- Free and Halogen-Free

Applications

- Over-current and over-temperature protection of automotive electronics
- Hard disk drives
- Point-of-sale (POS) equipment
- PCMCIA cards
- Power over Ethernet (POE)
- HDMI 1.4 Source protection
- Computers & peripherals
- Industrial control
- Security systems

Part Number Code

S	M	6	0	0	-	X	X	X

LOGO

Voltage rating(V_{DC})

Hold current

Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+85℃，1000hrs	±8% typical
Humidity aging	+85℃，85%R.H.1000hrs	±8% typical
Thermal shock	+125℃ to -55℃，10times	±12% typical
Resistance to solvent	MIL-STD-202，Method 215	No change
Vibration	MIL-STD-202，Method 201	No change

Electrical Characteristic

Model	I_{hold} (A)	I_T (mA)	V_{max} (V)	Maximum Time to Trip		I_{max} (A)	Pd_{typ} (W)	Resistance(Ω)	
				Current(A)	Time(S)			Ri_{min}	$R1_{max}$
SM600-110	0.11	0.22	600	1	8	3	1.5	6.0	30.0
SM600-150	0.15	0.30	600	1	9	3	1.5	5.0	22.0
SM600-160	0.16	0.32	600	1	10	3	1.5	4.0	18.0

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.

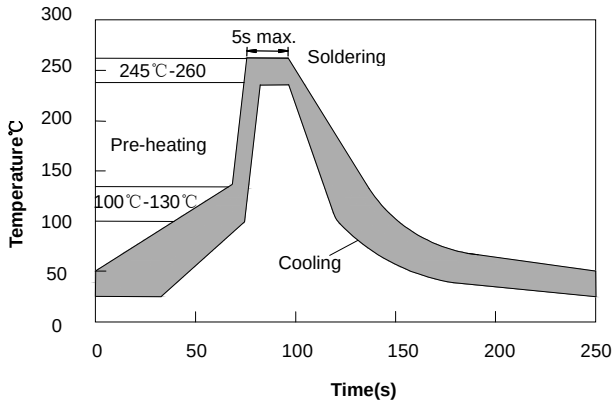
P_d=Typical power dissipation: typical amount of power dissipated by the decice when in state air environment.

Ri_{min}=Minimum device resistance at 25℃ prior to tripping.

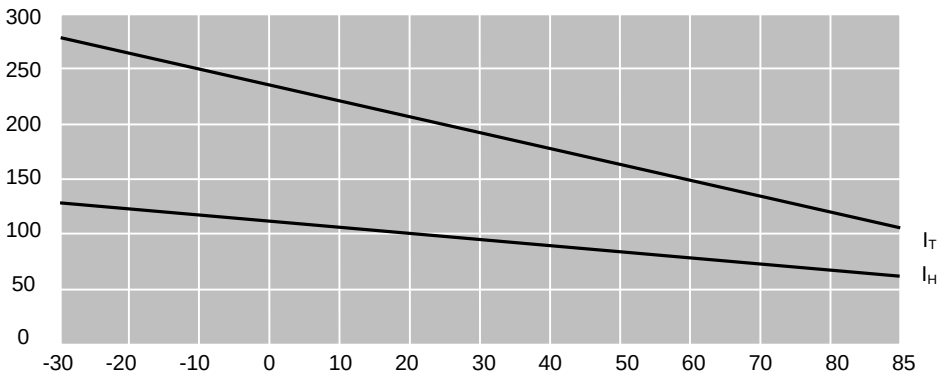
$R1_{max}$=Maximum device resistance is measured one hour post reflow.

Solder reflow conditions

Wave Soldering
Soldering Temperature:260℃~270℃
Soldering Time:≤3sec.
Soldering Position: Resettable fuse wire and the bottom ≥ 6mm。
Manual soldering
Soldering Temperature:250℃~280℃
Soldering Time:≤3sec.
Soldering Position: Resettable fuse wire and the bottom ≥ 6mm。



Environmental temperature and I_H,I_T



Product Dimensions

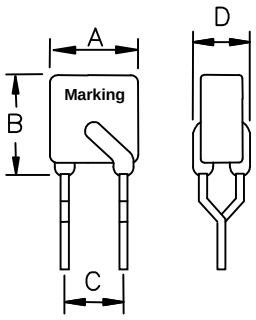


Fig:1

Type Number	Dimensions（mm）					Dimensions（in）					Shape
	A(max)	B(max)	C(typ)	D(max)	LeadΦ (typ)	A(max)	B(max)	C(typ)	D(max)	LeadΦ (typ)	Fig
SM600-110	14.0	14.0	5.1	6.0	0.6	0.551	0.551	0.201	0.236	0.024	1
SM600-150	14.5	14.5	5.1	6.5	0.8	0.571	0.571	0.201	0.256	0.031	1
SM600-160	14.5	14.5	5.1	6.5	0.8	0.571	0.571	0.201	0.256	0.031	1

Packaging

Part Number	Quantity
SM600-110~SM600-160	500pcs/bag