

Positive Temperature Coefficient (PTC) Datasheet

Features

- Max Dc voltage 30 V
- Radial leaded Devices
- Over-current protection
- Fast responding to fault current
- RoHS compliant & Lead-Free & Halogen Free
- Cured,flame retardant epoxy polymer insulating material meets UL94V-0

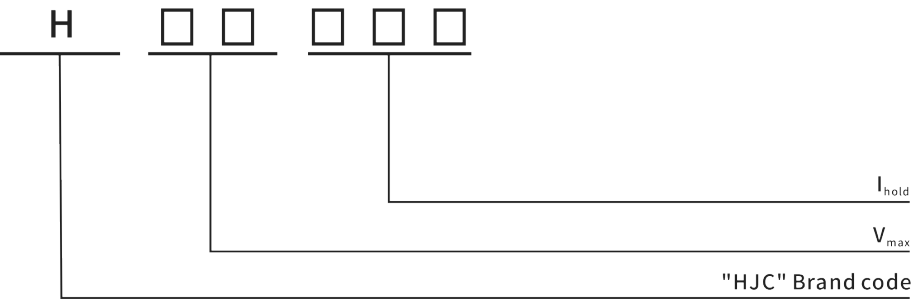
Max Dc voltage 30V

I Hold 0.5A to 9A

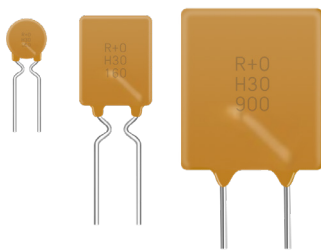
Applications

- Powered supplies
- General electronics
- Industrial controls
- Motor protection
- Game machines, Portable electronics,Battery
- Plug and play protection for motherboards and peripherals

Part Number Code

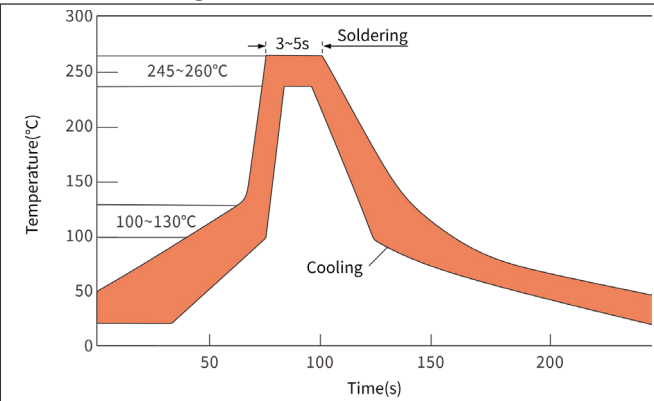


H30 Series



Recommended Soldering Conditions

Wave Soldering Recommendation Parameters



Profile Feature	Pb-Free Assembly
Pre-Heating Zone	Maximum ramping rate should not exceed 4 /sec.
Soldering Zone	Maximum solder temperature should not exceed 260°C ; Soldering Time:3-5sec.
Cooling Zone	Forced cooling

Manual Soldering Recommendation Parameters

Items	Conditions
Soldering condition	The highest power of the manual soldering iron should be 30W or less, soldering temperature should not be higher than 280°C .
Soldering time	The soldering time should be kept within 3 seconds, otherwise it might cause insulation layer cracking, and increased part resistance.
Soldering position	The distance on the leads between the soldering point and bottom of the PPTC body should be equal or greater than 4mm. Iron should not contact the PPTC body except the leads.

● Electrical Characteristics (Ta=25°C Unless otherwise specified)

Part Number	Marking	I_{hold}	I_{trip}	V_{max}	I_{max}	$P_{d\ typ}$	Max. Time-to-trip		R_{min}	R_{max}
		(A)	(A)	(V) _{DC}	(A)	(W)	(A)	(Sec)	(mΩ)	(mΩ)
H30-050	H30 050	0.5	1.0	30	40	0.5	2.5	5.0	250	600
H30-075	H30 075	0.75	1.5	30	40	0.6	3.75	5.0	200	370
H30-090	H30 090	0.90	1.8	30	40	0.7	4.5	8.0	100	220
H30-110	H30 110	1.10	2.2	30	40	0.7	5.5	8.0	70	200
H30-120	H30 120	1.20	2.4	30	40	0.8	6.0	8.0	80	160
H30-135	H30 135	1.35	2.7	30	40	0.8	6.75	8.0	70	160
H30-160	H30 160	1.60	3.2	30	40	0.9	8.0	8.0	60	140
H30-185	H30 185	1.85	3.7	30	40	1.0	9.25	8.0	50	120
H30-200	H30 200	2.00	4.0	30	40	1.2	10.0	11	40	100
H30-250	H30 250	2.50	5.0	30	40	1.2	12.5	11	30	80
H30-300	H30 300	3.00	6.0	30	40	2.0	15.0	11	30	70
H30-400	H30 400	4.00	8.0	30	40	2.5	20.0	12.7	10	60
H30-500	H30 500	5.00	10	30	40	3.0	25.0	14.5	10	50
H30-600	H30 600	6.00	12	30	40	3.5	30.0	16	5	40
H30-700	H30 700	7.00	14	30	40	3.8	35.0	17.5	5	30
H30-800	H30 800	8.00	16	30	40	4.0	40.0	18.8	5	25
H30-900	H30 900	9.00	18	30	40	4.2	40.0	20	5	20

● Vocabulary

- I_{hold} = Hold current: maximum current device will pass without tripping in 25°C still air.
- I_{trip} = Trip current: minimum current at which the device will trip in 25°C still air.
- V_{max} = Maximum voltage device can withstand without damage at rated current (I_{max}).
- I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max}).
- $P_{d\ typ.}$ = Typical power dissipated from device when in the tripped state at 25°C still air.
- R_{min} = Minimum device resistance at 25°C prior to tripping.
- R_{max} = Maximum device resistance at 25°C prior to tripping.

Caution: Operation beyond the specified ratings may result in damage and possible arcing and flame.

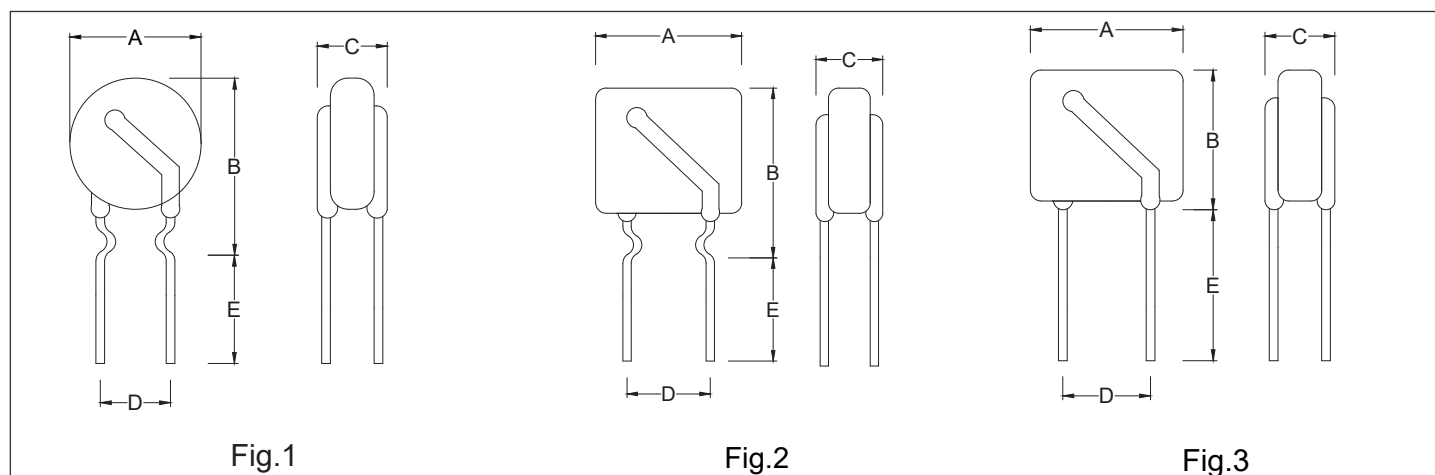
● Thermal Derating Chart - I Hold

Part Number	Ambient operating temperature hold current(I_{hold})									
	-40°C	-20°C	0°C	25°C	30°C	40°C	50°C	60°C	70°C	85°C
H30 SERIES	137%	130%	115%	100%	91%	83%	77%	68%	61%	52%

● Environmental Specifications

Operating / Storage temperature:	-40°C to +85°C
Passive Aging :	+85°C , 1000 hours
Humidity Aging :	+85°C , 85%R.H. 1000hours
Thermal Shock :	+125°C /-55°C 10 times
Solvent Resistance:	MIL-STD-202, Method 215 No change
Vibration:	MIL-STD-202,Method 201 No change
Moisture Level Sensitivity	Level 1, J-STD-020C
Storage Conditions:	Light-proof, Hermetically Sealed, Moisture-proof

● Physical Dimensions & Recommended Pad Layout



Part Number	Dimensions (mm)					Lead material	Shape
	A max	B max	C max	D	E min	Tinned matel(mm)	Fig.
H30-050	7.4	12.7	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1
H30-075	7.4	13.0	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1
H30-090	7.4	18.5	3.0	5.1±0.75	4.6	24AWG/Φ0.5	2
H30-110	7.4	18.5	3.0	5.1±0.75	4.6	24AWG/Φ0.5	2
H30-120	7.4	18.5	3.0	5.1±0.75	4.6	24AWG/Φ0.5	2
H30-135	9.2	17.6	3.0	5.1±0.75	4.6	24AWG/Φ0.5	2
H30-160	9.2	20.2	3.0	5.1±0.75	4.6	24AWG/Φ0.5	2
H30-185	9.2	20.2	3.0	5.1±0.75	4.6	24AWG/Φ0.5	2
H30-200	15.2	20.2	3.0	5.1±0.75	4.6	24AWG/Φ0.5	2
H30-250	13.2	22.4	3.0	5.1±0.75	4.6	24AWG/Φ0.5	2
H30-300	13.2	20.4	3.0	5.1±0.75	4.6	20AWG/Φ0.8	3
H30-400	14.0	23.7	3.0	5.1±0.75	4.6	20AWG/Φ0.8	3
H30-500	14.0	23.7	3.0	10.2±0.75	4.6	20AWG/Φ0.8	3
H30-600	17.2	27.0	3.0	10.2±0.75	4.6	20AWG/Φ0.8	3
H30-700	17.2	27.0	3.0	10.2±0.75	4.6	20AWG/Φ0.8	3
H30-800	23.5	29.2	3.0	10.2±0.75	4.6	20AWG/Φ0.8	3
H30-900	23.5	29.2	3.0	10.2±0.75	4.6	20AWG/Φ0.8	3

Note: Dimensions A, B, and C are the maximum values, and the standard tolerance for value D is ±0.75mm.

H30 SERIES

Radial leaded PTC devices.

● Ordering Information

DELIVERY MODE	Part Number	MPQ(PCS)
Bulk	H30-050 ~ H30-250	1,000
	H30-300 ~ H30-500	500
	H30-600 ~ H30-900	200

● Warning

- Users shall independently assess the suitability of these devices for each of their applications.
- Operation of these devices beyond the stated maximum ratings could result in damage to the devices and lead to electrical arcing and/or fire.
- These devices are intended to protect against the effects of temporary over-current or over-temperature conditions and are not intended to perform as protective devices where such conditions are expected to be repetitive or prolonged in duration.
- Exposure to silicon-based oils, solvents, electrolytes, acids, and similar materials can adversely affect the prolonged of these PPTC devices.
- These devices undergo thermal expansion under fault conditions, and thus shall be provided with adequate space and be protected against mechanical stresses.
- Circuits with inductance may generate a voltage ($L di/dt$) above the rated voltage of the PPTC device.