

Positive Temperature Coefficient (PTC) Datasheet

Features

- Max Dc voltage 16 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

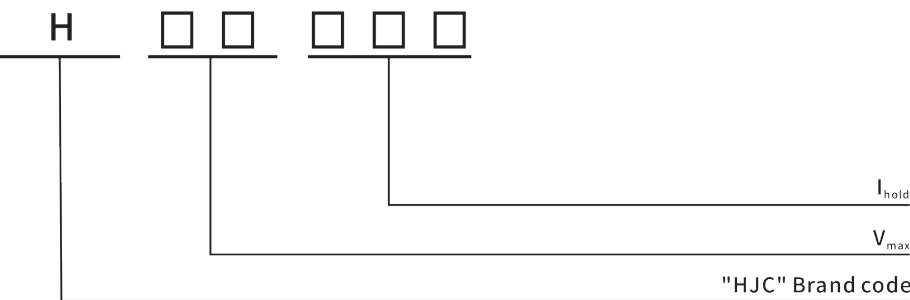
Max Dc voltage 16V

I Hold 0.1A to 14A

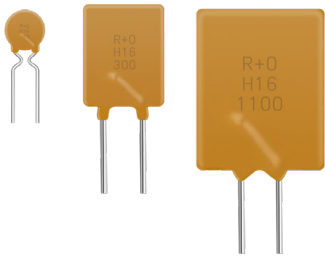
Applications

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

Part Number Code

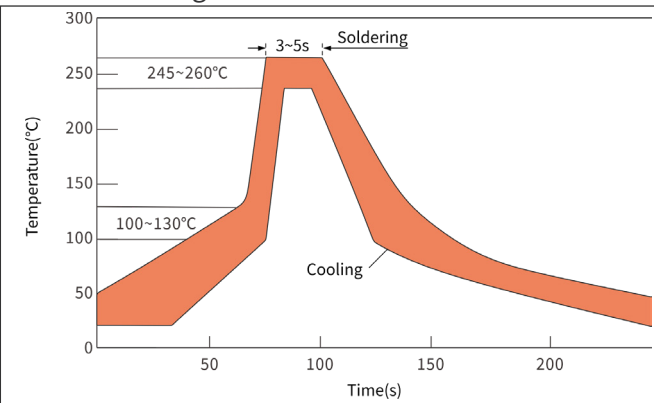


H16 Series



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)
H16-010	H16 010	0.1	0.3	16	100	0.38	0.5	5	1500	7500
H16-025	H16 025	0.25	0.5	16	100	0.45	1.25	5	500	1950
H16-030	H16 030	0.3	0.6	16	100	0.49	1.5	5	300	700
H16-050	H16 050	0.5	1.0	16	100	0.56	2.5	5	200	500
H16-075	H16 075	0.75	1.5	16	100	0.72	3.75	5	100	320
H16-090	H16 090	0.9	1.8	16	100	0.83	4.5	5	90	180
H16-110	H16 110	1.1	2.2	16	100	0.94	5.5	5	60	150
H16-135	H16 135	1.35	2.7	16	100	1.2	6.75	5	40	130
H16-160	H16 160	1.6	3.2	16	100	1.4	8	5	40	110
H16-200	H16 200	2	4	16	100	2.2	6	15	35	75
H16-300	H16 300	3	6	16	100	2.3	9	15	20	60
H16-400	H16 400	4	8	16	100	2.4	12	15	20	40
H16-500	H16 500	5	10	16	100	2.6	15	15	14	25
H16-600	H16 600	6	12	16	100	2.8	18	15	10	21
H16-700	H16 700	7	14	16	100	3.0	21	15	8	15
H16-800	H16 800	8	16	16	100	3.0	24	15	6	13
H16-900	H16 900	9	18	16	100	3.3	27	25	4	12
H16-1000	H16 1000	10	20	16	100	3.7	30	30	4	11
H16-1100	H16 1100	11	22	16	100	3.7	33	30	3	9
H16-1200	H16 1200	12	24	16	100	4.2	36	30	3	8
H16-1300	H16 1300	13	26	16	100	4.2	39	50	3	8
H16-1400	H16 1400	14	28	16	100	4.2	40	50	3	7

● 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.

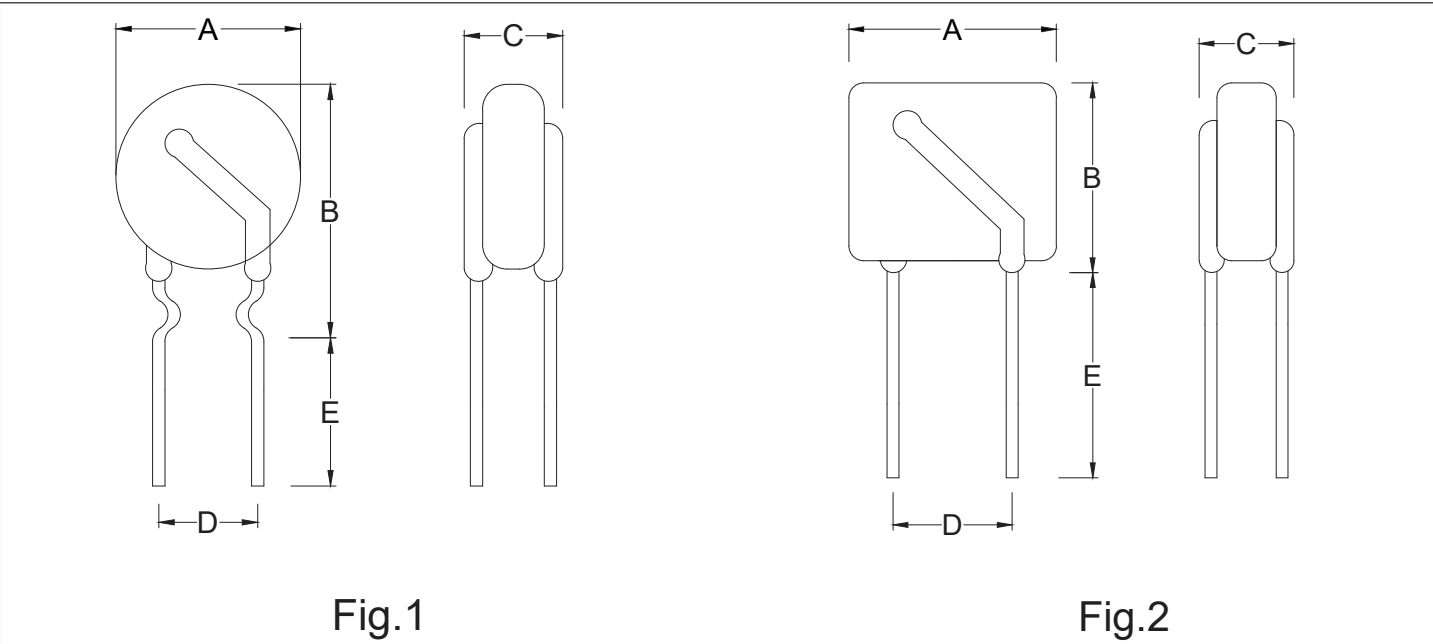
● Thermal Derating Chart - I Hold

Part Number	Ambient operating temperature hold current(Ihold)									
	-40℃	-20℃	0℃	25℃	30℃	40℃	50℃	60℃	70℃	85℃
H16 SERIES	137%	130%	115%	100%	91%	83%	77%	68%	61%	52%

● Environmental Specifications

Operating / Storage temperature:	-40℃ to +85℃
Passive Aging :	+85℃ , 1000 hours
Humidity Aging :	+85℃ , 85%R.H. 1000hours
Thermal Shock :	+125℃ /-55℃ 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.
H16-010	5.5	12.0	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1
H16-025	5.5	12.0	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1
H16-030	5.5	12.0	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1
H16-050	5.5	12.0	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1
H16-075	5.5	13.5	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1
H16-090	7.4	13.5	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1
H16-110	7.4	13.5	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1

Part Number	Dimensions (mm)					Lead material	Shape
	A max	B max	C max	D	E min	Tinned matel(mm)	Fig.
H16-135	7.4	13.5	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1
H16-160	7.4	14.0	3.0	5.1±0.75	4.6	24AWG/Φ0.5	1
H16-200	9.0	12.0	3.0	5.1±0.75	4.6	24AWG/Φ0.5	2
H16-300	9.0	12.0	3.0	5.1±0.75	4.6	20AWG/Φ0.8	2
H16-400	10.0	13.0	3.0	5.1±0.75	4.6	20AWG/Φ0.8	2
H16-500	11.8	17.5	3.0	5.1±0.75	4.6	20AWG/Φ0.8	2
H16-600	11.8	17.5	3.0	5.1±0.75	4.6	20 AWG/Φ0.8	2
H16-700	13.5	23.0	3.0	5.1±0.75	4.6	20 AWG/Φ0.8	2
H16-800	13.5	23.0	3.0	5.1±0.75	4.6	20 AWG/Φ0.8	2
H16-900	15.0	24.0	3.0	5.1±0.75	4.6	20 AWG/Φ0.8	2
H16-1000	18.0	26.0	3.0	5.1±0.75	4.6	20 AWG/Φ0.8	2
H16-1100	18.0	26.0	3.0	5.1±0.75	4.6	20 AWG/Φ0.8	2
H16-1200	22.5	26.0	3.0	10.2±0.75	4.6	20 AWG/Φ0.8	2
H16-1300	24.0	30.0	3.0	10.2±0.75	4.6	20 AWG/Φ0.8	2
H16-1400	24.0	30.0	3.0	10.2±0.75	4.6	20 AWG/Φ0.8	2

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

● Ordering Information

DELIVERY MODE	Part Number	MPQ(PCS)
Bulk	H16-010~H16-600	1,000
	H16-700~H16-900	500
	H16-1000~H16-1400	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.