

➤ Features

- 72Vdc max voltage
- RoHS compliant, lead-free and halogen-free
- Resettable feature
- Ideal for a broad range of general electronics using a low voltage power supply

➤ Applications

- Load protection on wide range of low voltage power supplies
- Computers, Computers peripherals
- General electronics

➤ Electrical Characteristics (25°C)

Part Number	I_{hold}	I_{trip}	V_{max}	I_{max}	$P_{d\ typ}$	Time to trip		$R_{i\ min}$	$R_{1\ max}$
	(A)	(A)	(V _{dc})	(A)	(W)	(A)	(Sec)	(Ω)	(Ω)
BH72-020	0.20	0.40	72	40	0.52	1.00	3.6	1.50	4.49
BH72-025	0.25	0.50	72	40	0.52	1.25	3.2	1.00	3.00
BH72-030	0.30	0.72	72	40	0.59	1.50	3.0	0.76	2.20
BH72-040	0.40	0.80	72	40	0.66	2.00	3.8	0.45	1.40
BH72-050	0.50	1.00	72	40	0.80	2.50	4.0	0.40	1.20
BH72-065	0.65	1.30	72	40	0.90	3.25	5.3	0.27	0.74
BH72-075	0.75	1.50	72	40	0.95	3.75	6.3	0.18	0.62
BH72-090	0.90	1.80	72	40	1.00	4.50	7.2	0.14	0.49
BH72-110	1.10	2.20	72	40	1.51	5.50	8.2	0.14	0.40
BH72-135	1.35	2.70	72	40	1.71	6.75	9.6	0.12	0.32
BH72-160	1.60	3.20	72	40	1.98	8.00	11.4	0.09	0.24
BH72-185	1.85	3.70	72	40	2.10	9.25	12.6	0.08	0.21
BH72-250	2.50	5.00	72	40	2.50	12.5	15.6	0.05	0.15
BH72-300	3.00	6.00	72	40	2.80	15.0	19.8	0.04	0.12
BH72-375	3.75	7.50	72	40	3.20	18.75	24.0	0.03	0.10
BH72-500	5.00	10.0	72	40	4.20	25.00	30.0	0.015	0.08

➤ Vocabulary

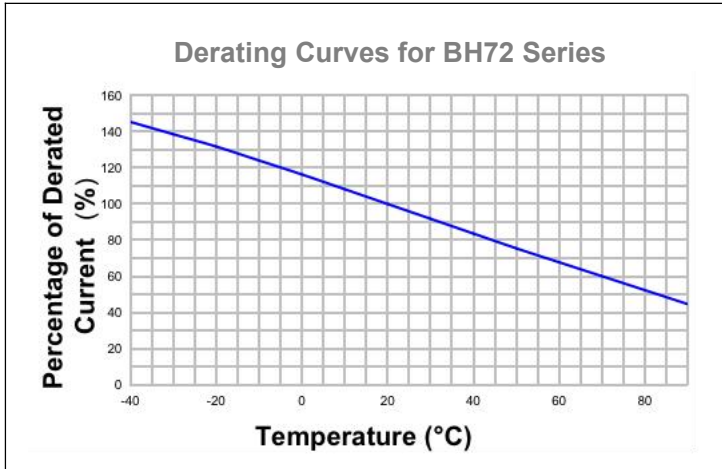
- I_{hold}** = Hold current: maximum current device will pass without tripping in 25°C still air.
- I_{trip}** = Trip current: minimum current at which the device will trip in 25°C still air.
- V_{max}** = Maximum voltage device can withstand without damage at rated current (**I_{max}**).
- I_{max}** = 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 resistance of device in initial (un-soldered) state.
- R_{1max}** = Maximum resistance of device at 25°C measured one hour after tripping or reflow soldering of 260°C for 20 sec.

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

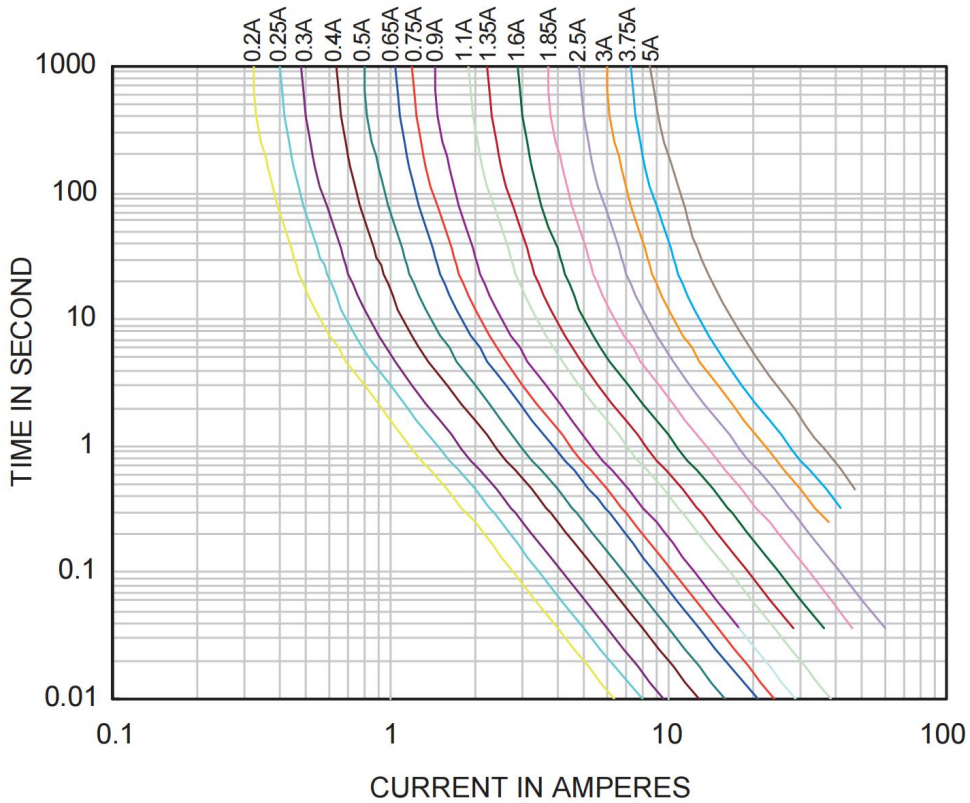
➤ Warning

- 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.

➤ **Thermal Derating Curve**



➤ **Average Time-Current Curve**



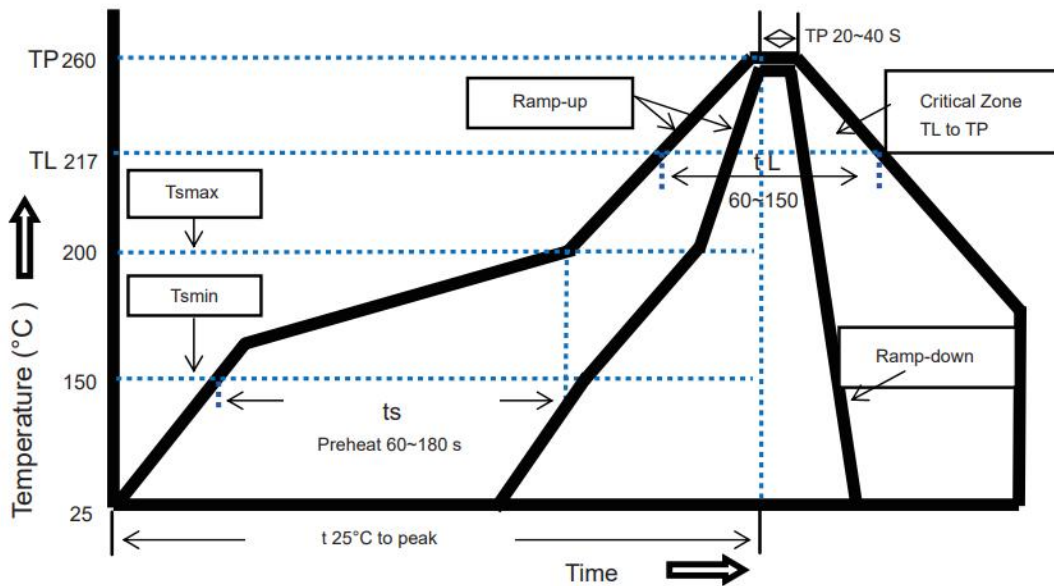
➤ Thermal Derating Chart

Part Number	Ambient operating temperature hold current(I_{hold})								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
BH72-020	0.290	0.260	0.240	0.200	0.176	0.160	0.142	0.132	0.112
BH72-025	0.363	0.325	0.300	0.250	0.220	0.200	0.178	0.165	0.140
BH72-030	0.435	0.390	0.360	0.300	0.264	0.240	0.213	0.198	0.168
BH72-040	0.580	0.520	0.480	0.400	0.352	0.320	0.284	0.264	0.224
BH72-050	0.725	0.650	0.600	0.500	0.440	0.400	0.355	0.330	0.280
BH72-065	0.943	0.845	0.780	0.650	0.572	0.520	0.462	0.429	0.364
BH72-075	1.088	0.975	0.900	0.750	0.660	0.600	0.533	0.495	0.420
BH72-090	1.305	1.170	1.080	0.900	0.792	0.720	0.639	0.594	0.504
BH72-110	1.595	1.430	1.320	1.100	0.968	0.880	0.781	0.726	0.616
BH72-135	1.958	1.755	1.620	1.350	1.188	1.080	0.959	0.891	0.756
BH72-160	2.320	2.080	1.920	1.600	1.408	1.280	1.136	1.056	0.896
BH72-185	2.683	2.405	2.220	1.850	1.628	1.480	1.314	1.221	1.036
BH72-250	3.625	3.250	3.000	2.500	2.200	2.000	1.775	1.650	1.400
BH72-300	4.350	3.900	3.600	3.000	2.640	2.400	2.130	1.980	1.680
BH72-375	5.438	4.875	4.500	3.750	3.300	3.000	2.663	2.475	2.100
BH72-500	7.250	6.500	6.000	5.000	4.400	4.000	3.550	3.300	2.800

➤ Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hours	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202,Method 215	No change
Vibration	MIL-STD-202,Method 201	No change
Ambient operating conditions : - 40 °C to +85 °C		
Maximum surface temperature of the device in the tripped state is 125 °C		

➤ **Soldering Parameters**



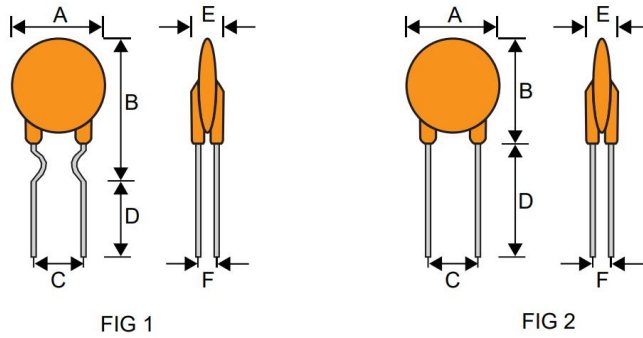
Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate($T_{s_{max}}$ to T_p)	3°C/second max
Preheat	
-Temperature Min($T_{s_{min}}$)	150°C
-Temperature Max($T_{s_{max}}$)	200°C
-Time($T_{s_{min}}$ to $T_{s_{max}}$)	60~180 seconds
Time maintained above:	
-Temperature(T_L)	217°C
-Time(t_L)	60~150 seconds
Peak Temperature(T_p)	260°C
Ramp-Down Rate	6°C/second max
Time 25°C to Peak Temperature	8 minutes max
Storage Condition	0°C~30°C,30%-60%RH

- Recommended reflow methods: IR, vapor phase oven, hot air oven, N₂ environment for lead-free.
- Recommended maximum paste thickness is 0.25mm.
- 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 temperatures exceed the recommended profile, devices may not meet the performance requirements.

➤ **Physical Dimensions & Recommended Pad Layout (mm)**



Part Number	Quantity	A	B	C	D	E	F	Lead	
		Min	Max	Typ	Max	Min	Typ	φ	FIG
BH72-020	500	7.4	12.7	5.1±0.5	7.6	3.1	1.0	0.5	1
BH72-025	500	7.4	12.7	5.1±0.5	7.6	3.1	1.0	0.5	1
BH72-030	500	7.4	13.0	5.1±0.5	7.6	3.1	1.0	0.5	1
BH72-040	500	7.8	16.2	5.1±0.5	7.6	3.1	1.2	0.5	1
BH72-050	500	7.9	16.2	5.1±0.5	7.6	3.1	1.2	0.5	1
BH72-065	500	9.7	17.8	5.1±0.5	7.6	3.1	1.5	0.6	1
BH72-075	500	10.4	18.4	5.1±0.5	7.6	3.1	1.5	0.6	1
BH72-090	500	11.7	18.4	5.1±0.5	7.6	3.1	1.5	0.6	1
BH72-110	500	13.0	18.0	5.1±0.5	7.6	3.1	1.2	0.8	2
BH72-135	500	14.5	19.6	5.1±0.5	7.6	3.1	1.2	0.8	2
BH72-160	500	16.3	21.3	5.1±0.5	7.6	3.1	1.5	0.8	2
BH72-185	500	17.8	22.9	5.1±0.5	7.6	3.1	1.5	0.8	2
BH72-250	500	21.3	26.4	10.2±0.5	7.6	3.1	1.7	0.8	2
BH72-300	500	23.9	28.6	10.2±0.5	7.6	3.1	2.0	0.8	2
BH72-375	500	28.5	33.5	10.2±0.5	7.6	3.1	2.0	0.8	2
BH72-500	500	29.5	32.5	10.2±0.5	7.6	3.1	1.4	0.8	2

➤ **Contact information**

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