

1. SCOPE AND DESCRIPTION



The following product specifications apply to fuses of the BTW series. The BTW series consists of thermal cutoff fuses for over-temperature protection.

The BTW series thermal fuses are widely used in various applications such as transformers, adapters, secondary batteries, household appliances, gas water heaters, lighting and other heating equipment.

2. GENERAL INFORMATION





General Description

The BTW thermal cutoff fuses are non-resetting single-pole and normally closed devices and provide accurate, reliable protection for high temperature applications against overheating through interrupting electric current.

Detailed Features

- Ceramic casing, epoxy sealing material
- Small size, $\Phi 2.5\text{mm} \times 9.0\text{mm}$
- 0.55mm lead wires made of tin plated copper.
- Protection against harmful over-temperature in primary and secondary applications.
- Lead-free, RoHS compliant
- Designed according to IEC 60691

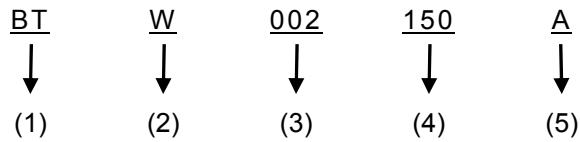
3. AGENCY APPROVALS

Agency	Agency File Number	Tf Range
	E346843	Tf:150°C
	2017010205988362	Tf:150°C
	R 50402085	Tf:150°C
	PSE18021327	Tf:150°C

4. PART NUMBERING SYSTEM

4.1 Part Number

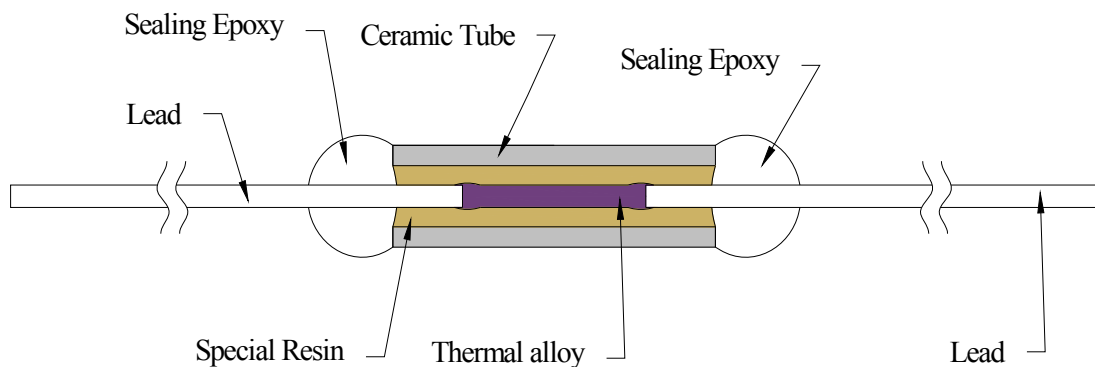
Example: BTW002150



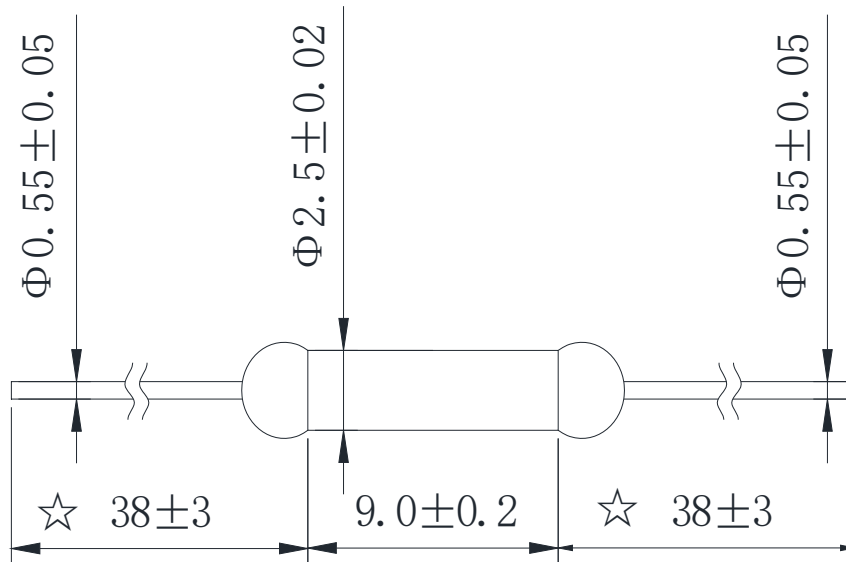
(1) ModelBT...	BT series
(2) Product type.....	...W...	Axial alloy thermal fuse
(3) Rated current.....	...002...	Rated current: 2A
(4) Function temperature...	...150...	Tf: 150°C
(5) Remark Number.....	...A...	Standard: 38mm

5. CONSTRUCTION AND MECHANICAL CHARACTERISTICS

Construction (cross section)



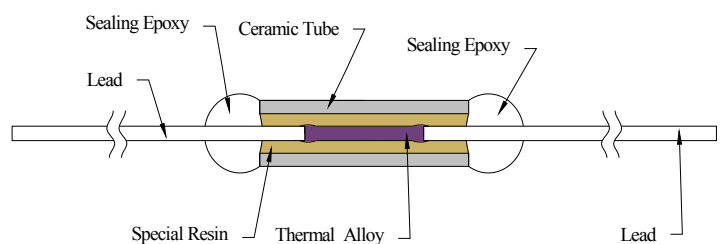
Dimensions (units: mm)



6. OPERATION PRINCIPLE

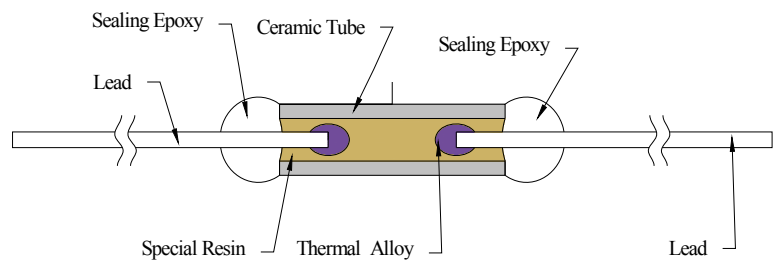
Before action:

The built-in thermal alloy wire connects both leads of the fuse and circuit current can pass freely.



Cutoff:

When the temperature increases and reaches the Rated Functioning Temperature (T_f), the thermal alloy wire starts to melt and liquefies, creating bulbs around the leads. This cuts off and interrupts the circuit current.



7. ELECTRICAL SPECIFICATION

Electrical Characteristics at 25 °C

NO.	Part Number	T _f	Operating temperature	T _h	T _m	I _r		Voltage	Approvals				
		(°C)	(°C)	(°C)	(°C)	(A)		(V)	UL	cURus	CCC	TUV	PSE
1	BTW00*150	150	144±2	126	200	1	2	250V AC	•	•	•	•	•

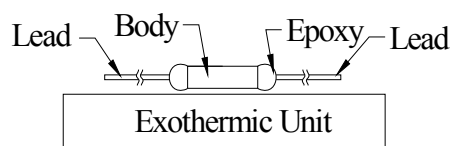
Note: *: Response the 1 or 2.

Rated Functioning Temperature	T _f	The temperature at which the thermal cutoff fuse changes its state of conductivity and opens the circuit with detection current of <10mA as the only load. The temperature tolerance for UL CSA and VDE standards is +0. -10°C
Hold Temperature	T _h	The maximum temperature at which a thermal cutoff can be maintained while conducting rated current for 168 hours without causing a change in the conductivity to open the circuit.
Maximum Temperature Limit	T _m	At the rated voltage, the temperature the fuse can withstand for 10 minutes at highest temperature rating without change in the conductivity
Rated Current	I _r	The maximum current which the thermal cutoff fuse is able to carry and not affect its electrical characteristics.
Rated Voltage	V _r	The maximum voltage which the thermal cutoff fuse is able to carry and not affect its electrical characteristics.

8. INSTALLATION AND SOLDERING

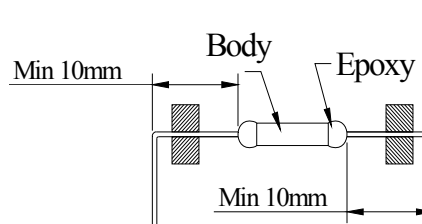
1. Installation Location

- 1.1 Make sure that the thermal fuse and its leads are fully able to detect ambient heat.
- 1.2 Ensure that the thermal fuse in your design is located as close to the source of a heat risk as possible.



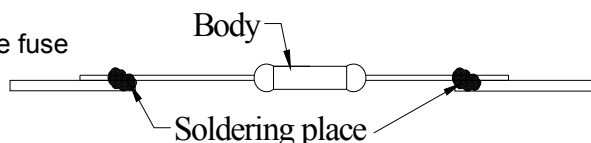
2. Lead Forming

3. When bending the thermal fuses, make sure the bending point is at least 3mm away from the thermal fuses body.
- 2.2 When bending then thermal fuses, make sure that the fuse body and epoxy shows no signs of cracking or breaking.
- 2.3 During assembly and normal operation, make sure the thermal fuses is not subjected to mechanical force.



4. Soldering

- 3.1 Do not use solder on low temperature models.
- 3.2 Do soldering work on the leads as far away from the fuse



body as possible.

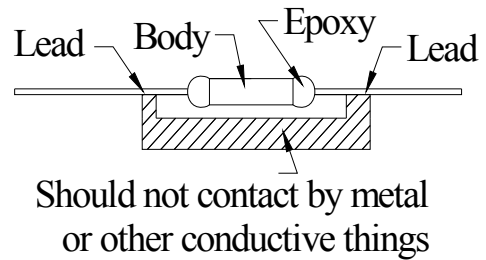
- 3.3 Make sure to keep soldering time as short as possible. To shorten the time, employ pre-soldering process at the intended soldering area. Use a heatsink to prevent heat.

Series No.	Part number	Packaging Code	Quantity	Purchase Order No.
BTW				

- 3.4 After soldering, check resistance to ensure that the thermal fuses has not been damaged.

4. Connections in electronic circuit

- 4.1 Do not let the lead contacts and epoxy get connected with the fuses body. Do not connect to other conductive parts such as metal.
- 4.2 If the thermal fuses' body is made of metal, consider its effect on other components in the electronic circuit.



5. Handling and Storage

- 5.1 During transport and assembly, make sure that the thermal fuse is not subjected to strenuous vibrations, it is maybe cause damage to fuses.
- 5.2 Avoid any mechanical force that maybe cause damage to thermal fuses.
- 5.3 The shelf life is 12 months storage, during which the fuse must avoid sunlight and dusty environment.

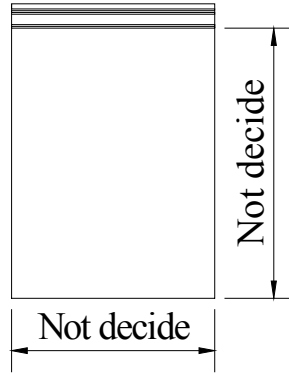
9. ORDERING INFORMATION

The following information are necessary in order to place your order with us correctly:

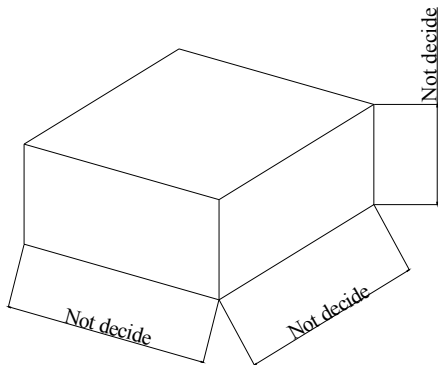
10. PACKING INFORMATION

Packing details

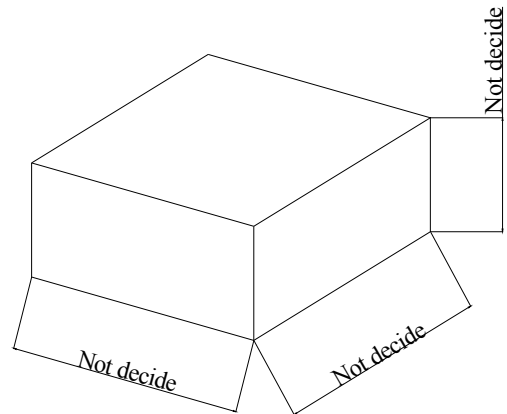
Plastic bag



Inner Packaging Box



Master Carton



Net Weight		Inner box weight		Master Carton Weight	
Qty per bag		Qty per box		Qty per carton	