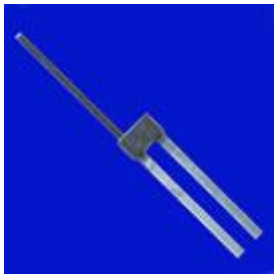
ELCUT Brand EC Series
Thermal Link / Resistor



- Hybrid safety device combining a thermal link and resistor
- Used in a protection circuits for lithium ion batteries
- Opens circuit in cases of abnormal FET heat up
- Robust electrical insulation
- RoHS and REACH compliant.
- Halogen free

CHATHAM COMPONENTS INC.
Authorized distributor for Elcut thermal links
www.cci-tco.com 908-840-4428

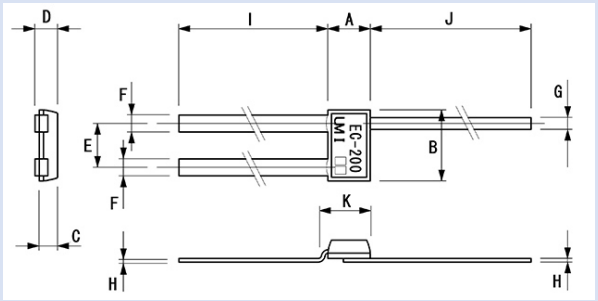
Specifications

Type No.	Rated Functioning Temperature Tf (°C)	Functioning Temperature(°C)	Th (°C)	Tm (°C)	Electrical rating		Resistance (Ω)	Resistance Tolerance (%)	Maximum Overload Power (W)
					Ampere (A)	Voltage (V)			
EC-200	135	131±3	100	180	12	DC32	20	±20	20
EC-350							35		

Safety Standards

Part No.	Safety Standard Approval					
	PSE	UL	C-UL	VDE	CCC	KC
EC	-	E50082	E50082	4002563	-	-

Dimensions (mm)



Lead length	A	B	C	D	E	F	G	H	I	J	K
Regular	3.0±0.5	5.0±0.5	1.5 max	1.75 max	3.1±0.5	1.2±0.1	0.84±0.1	0.25±0.1	16.5±1	16.5±1	4.2 max

*For proper operation, manufacture's installation cautions must be followed

Installation Cautions (Elcut Brand From Uchihashi Estec)

*Cautions excerpted from Uchihashi Estec Co., Ltd. For questions and complete cautions, please contact Uchihashi Estec Co., Ltd

Thermoprotector with resistor (Other caution)

Cautions to be observed for storage and transportation

1. Do not store and transport EC at higher than 60℃. Avoid direct sunlight.
2. Handle EC with care. Do not apply strong shock and vibration

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Cautions to be observed for quality control

1. Carry out incoming inspection for EC to check any damage during shipment.

2. Measuring electric resistance with a low ohm meter in addition to appearance test is recommended for checking any damage during shipment, by soldering or welding.

Others

1. Do not use EC in liquids, or in environments of corrosive gases. Make sure that it does not become wet with condensation or others. Under above environments, EC may not function properly due to deteriorations of materials.

2. Do not use EC in aeronautical equipment, life-support equipment or nuclear power equipment.

Important caution

Users of EC are asked to decide an appropriate method for the use of EC in accordance with the user's applications. Any responsibility related to it shall be borne by the users.

Resistance to tracking

Contact our sales department for further information.

Interrupting current (Ib) is designated with 1.5 ×Rated current.

Transient overload current (Ip) is designated with 15 ×Rated current.

Thermal links/resistor assemblies (Caution to be observed when designing for use of thermal links)

1. Thermal links/resistor assemblies is assigned with a rated power, maximum open circuit voltage, maximum overload power, temperature derating curve and rated functioning temperature. And thermal links built in Thermal links/resistor assemblies is assigned with holding temperature and maximum temperature limit. Be sure to execute the design referring to these ratings and descriptions.

2. Since the Thermal links/resistor assemblies incorporates thermal links, it can operate by over-heating due to over-current or by ambient temperature rise. It may be necessary to reduce the load in accordance with the derating chart showing the relationship between the ambient temperature and permissible power so that it does not operate during normal use.

3. When a load is applied to the Thermal links/resistor assemblies by continuous inrush or leak current, the Thermal links/resistor assemblies may function due to the temperature rise caused by the accumulated heat storage. In this case, find the thermal equivalent power consumed by the Thermal links/resistor assemblies and use the Thermal links/resistor assemblies within the range of derating chart

4. To insure that the Thermal links/resistor assemblies functions properly, it is necessary to use the Thermal links/resistor assemblies so that an electrical power of more than four times the Thermal links/resistor assemblies rated power and the less than maximum overload power is applied to the Thermal links/resistor assemblies in abnormal conditions. The Thermal links/resistor assemblies will operate more quickly and surely with greater electric power supplied. If power exceeding the maximum overload power is applied, however, the insulation resistance after the operation may be adversely affected, or the Thermal links/resistor assemblies may be damaged as the case may be. Therefore, it is advised not to allow power exceeding the maximum load power to be applied to the Thermal links/resistor assemblies in any case.

5. Since the Thermal links/resistor assemblies may be over-heated from external sources, do not attempt to install the Thermal links/resistor assemblies close to other heat producing components or components, which are readily affected by heat.

6. To check that the Thermal links/resistor assemblies can operate in accordance with its design, it is necessary to subject the trial product or initial product to normal conditions and abnormal conditions intentionally for confirmation.

Thermoprotector with resistor (Caution to be observed when installing thermal links)

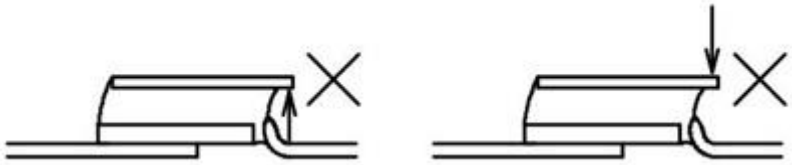
Cautions to be observed in installing EC

1. Do not apply tensile stress exceeding the force in Table 1to the lead wires for installation. The stress exceeding the force may cause malfunction of EC Series.
   Table 1

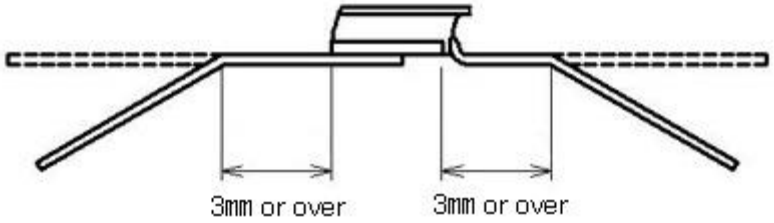
Maximum tensile force	6.7 N

2. Do not pull, push, bend or twist the body and the lead wires. Do not pull or push the lead wires at an angle to the body

3. Do not apply any force toward the direction as shown in Figure 2
   Figure 2 Caution to be paid for projection



4. When bending the lead wire for installation, fix the part of the lead wire between the body and the lead wire section to be bent with a tool, and gently bend the lead wire section that is at least 3 mm away from the body. See Figure 3.
   Figure 3 Lead wire bending method



5. After EC Series is installed, do not apply excessive force that will damage its body or the lead wires, and ensure that the body and the lead wires should not be subjected to pull or push force.

Cautions to be observed for soldering and welding

1. Be sure to perform soldering condition confirmation test in advance, as the fuse part of EC may function depending on the conditions for soldering the lead wires.

2. The maximum soldering time for soldering one lead wire “B” and “C” of EC at the length of 10 mm from the body in a soldering bath (350℃) is about 3 seconds.

3. The maximum soldering time for soldering one lead wire “A” of EC at the length of 5 mm from the body in the solder bath (350℃) is about 5 seconds.

4. Be sure to leave it for minimum of 60 seconds for cooling before attempting the re-soldering or re-welding.

5. For staking or welding the lead wires, make sure to measure electric resistance over the joint part with a low ohm meter to check the jointing conditions.