ELCUT A5MC Series
Thermal Link / Resistor

- Thermal link / resistor assembly
- Uses coil-winding for greater ability to withstand inrush current.
- Robust electrical insulation
- RoHS and REACH compliant

Specifications

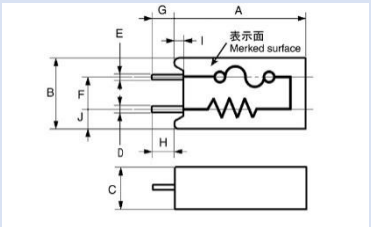
Type No.	Nominal Resistance Value (Ω)	Resistance Tolerance（%）	Rated functioning temperature Tf (°C)	Rated Power (W)	Maximum Open Circuit Voltage (V)	Maximum Overload Power (W）
A5MC-5R1JK	5.1	±5	139 Thermal links Type 12M inside	2.1	AC250	70
A5MC-6R8JK	6.8					
A5MC-100JK	10					
A5MC-150JK	15					
A5MC-220JK	22					

Safety Standards

Part No.	Safety Standard Approval					
	PSE	UL	C-UL	VDE	CCC	KC
A5MC	-	E50082	E50082	40011903	-	-

Dimensions (mm)

Lead length



	A	B	C	D	E	F	G	H	I	J
Regular (3.5)	25.0±1.5	14.0±1.0	9.0±1.0	0.8±0.05	0.6±0.05	5.5±1.0	3.5+0.5-0	3.5+0.5-0	2.0±0.5	4.0±0.8
Long	25.0±1.5	14.0±1.0	9.0±1.0	0.8±0.05	0.6±0.05	5.5±1.0	27+0.5 -0	32+0.5 - 0	2.0±0.5	4.0±0.8

*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

Thermal links/resistor assemblies (Caution)

The following describes the cautions for using thermal links/ resistor assemblies. If these cautions are not strictly observed, thermal links/ resistor assemblies may function at temperatures lower than the functioning temperature shown in the catalog, or they may not function at all even though they exceed the functioning temperature indicated in the catalog. Problems resulting from improper use of thermal links/ resistor assemblies are the responsibility of the user, and not of Uchihashi Estec.

1. The electrical and thermal ratings of thermal links / resistor assemblies are prescribed. Use them within the rating's ranges.

2. Install thermal links/ resistor assemblies in the way that body temperature of the thermal links/ resistor assemblies do not exceed 90℃continuously.

3. Do not apply thermal links/ resistor assemblies in special conditions, which exceed the environment of ordinary electrical equipment such as consumer electronics and electronic office equipment. For example, the application in water or liquids, in organic solvent, in environment of corrosive gas (mainly sulfurous acid gas and nitrogen oxide gas), in high or low pressure, or in high humidity shall be prohibited. Under these conditions, thermal links/ resistor assemblies may function at temperatures lower than the functioning temperature or may not function even though they exceed the functioning temperatures, because of the hermetic damage with the deteriorated epoxy resin of the built-in thermal links.

4. Thermal links/ resistor assemblies are developed with the assumption to be applied in ordinary electrical equipment such as consumer electronics and electronic office equipment. Do not apply them in aeronautical equipment, life-support equipment for medical use, devices used for engine control in transportation equipment or in nuclear power products.

5. Select the thermal links/ resistor assemblies suitable for the application as well as the mounting places and methods in order to have the properly function. Select them for each application and carry own evaluation to confirm the selections. The evaluation should include the final product evaluation as well as the thermal links/ resistor assemblies evaluation under both normal and abnormal conditions.

6. Thermal links/ resistor assemblies are developed as the devices to control the inrush current in the switching power supplies. Do not design them to carry any current except the inrush current.
   * For further details, please consult with the representative of Uchihashi Estec Co.,Ltd.

Thermal links/resistor assemblies (Other caution)

Precautions on quality control of Thermal links/resistor assemblies

Check that the Thermal links/resistor assemblies is not damaged during transportation when it is received. The measurement of electric resistance, or the use of an X-ray for confirmation prior to finely assembling the Thermal links/resistor assemblies will further assure quality control.

Thermal links/resistor assemblies (Caution to be observed when installing thermal links)

Precautions on installation of Thermal links/resistor assemblies

1. Axial stress (tensile and thrust) on the lead must never exceed the force of the maximum tensile force of 5.65N and the maximum thrust force of 1.41N. Stress exceeding these values may cause premature failure of the Thermal links/resistor assemblies. Those forces are calculated from diameter of built-in thermal link's lead wire according to EN60691, UL60691.

2. Be careful not to hold the Thermal links/resistor assemblies body forcibly, causing it to be damaged, or to apply any strong shock. Otherwise, performance failure may occur.

3. Do not attempt to wash the Thermal links/resistor assemblies with water or solvent. Where such cleaning method is absolutely necessary, perform a confirmation test in advance.

4. Do not hold the lead wire with a sharp-edged tool, causing it to be damaged or bent acutely.

5. Do not twist, pull or push the lead wire diagonally

6. When bending the lead wire, bend slowly ensuring to avoid any force applied to Thermal links/resistor assemblies.

7. Install the Thermal links/resistor assemblies in such a manner that no force is applied to the body or lead wire of the Thermal links/resistor assemblies after installation.

Precautions on soldering, splicing and welding of Thermal links/resistor assemblies

1. When soldering the lead wire of the Thermal links/resistor assemblies, be sure to perform a soldering condition confirmation test in advance, as the built-in thermal links may operate, depending on the soldering condition.

2. The maximum soldering time when soldering one lead wire of the Thermal links/resistor assemblies at a length of 10mm from the soldering bath (300℃) is 5 seconds.

3. When re-soldering due to soldering failure, or when re-welding due to welding failure, be sure to leave it for a minimum of 60 seconds for cooling before attempting re-soldering or re-welding.

4. When making a connection by splicing or welding, measure each weld as well as connection by splicing, for electric resistance using a low-ohmmeter to check the connection conditions.

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.