# Mounting Recommendations for ISOA Resistors

*By Frederic Lovera*

## 1. ISOA RESISTOR OVERVIEW

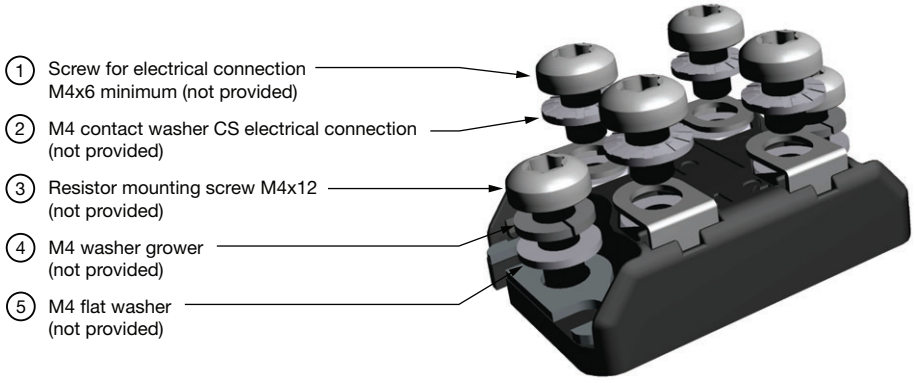


Fig. 1

## 2. MECHANICAL INTERFACE SET UP

Make sure that the dissipation area of the heatsink has been properly set up to ensure the expected performance. The maximum size for flatness defects must not exceed 0.025 mm / 25 mm, and the interface between the heatsink and the resistor has to be free of any holes, scratches, flaws, or foreign objects. The heatsink contact surface roughness must be less than Ra 6.3 µ.

Mount the resistor on the heatsink following steps A, B, C, and D.

### STEP A

Clean both the heatsink (Fig. 2) and the resistor (Fig. 3) with an ethanol-soaked wipe.

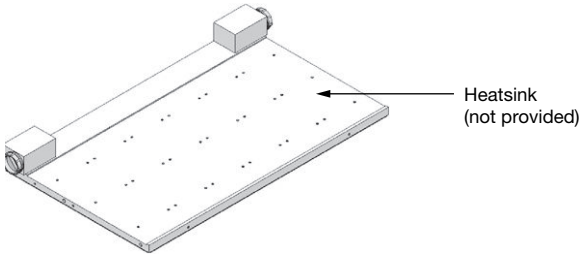


Fig. 2

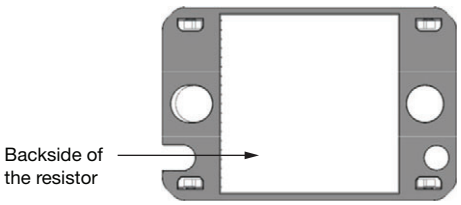


Fig. 3

### STEP B

Use a thermal interface material, such as a thermal paste, between the heatsink and resistor to ensure proper power dissipation. A thermal interface material thickness of 0.025 mm max. and thermal resistance ± 0.05 °C/W are required. In order to manage this step correctly, apply some thermal paste on the backside of the resistor (Fig. 4). Take care to keep a 90° angle (Fig. 5) between the backside surface of the resistor and the plastic squeegee (Fig. 6).

APPLICATION NOTE


For technical questions, contact: mcbfixedresistors@vishay.com

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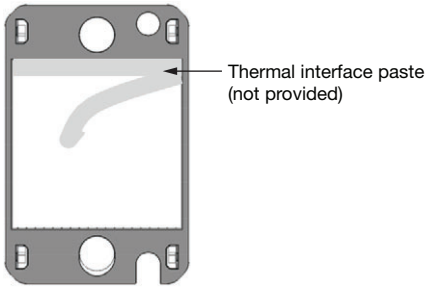



Fig. 4

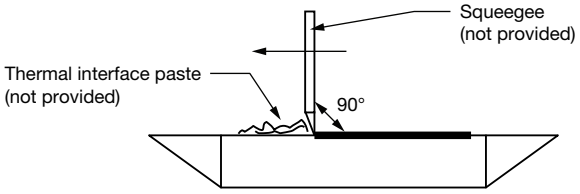



Fig. 5

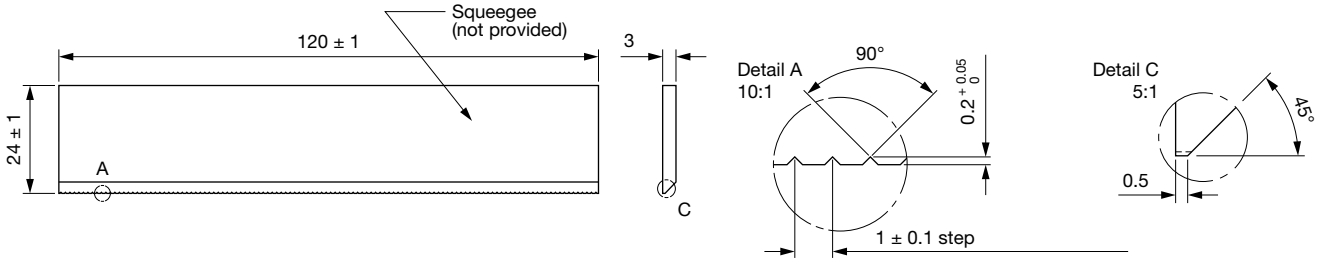
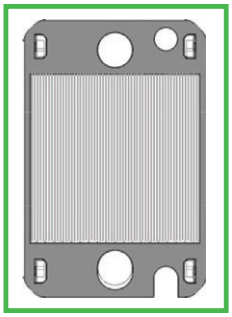



Fig. 6

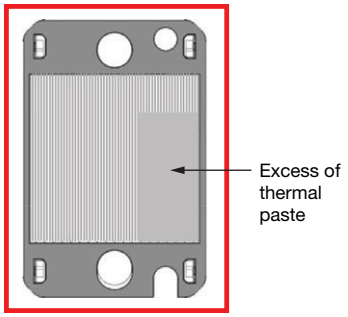
**STEP C**

Check that the active area of the resistor has been fully covered up with thermal interface material (Fig. 7). Avoid any excess (Fig. 8) or lack of thermal paste on the active area (Fig. 9).



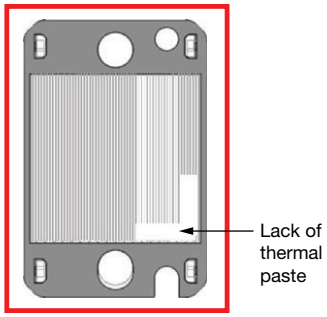
**OK**

Fig. 7




**NOT OK**

Fig. 8




**NOT OK**

Fig. 9

**STEP D**

Apply a rotational movement of ± 5° to 10° (Fig. 10) to the resistor after putting it on the heatsink.

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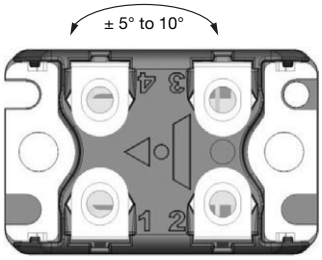


Fig. 10

Make sure that the threading depth matches with the screws used. Apply a preliminary hand tightening on each screw until they touch the contact washer CS. Then apply the nominal tightening torque of 1.8 Nm (± 0.2 Nm). It is also possible to mount the resistor using a three-step sequence:

- Apply a pre-tightening torque of 0.8 Nm maximum on the first screw
- Apply a nominal tightening torque of 1.8 Nm (± 0.2 Nm) on the second screw
- Apply a nominal tightening torque of 1.8 Nm (± 0.2 Nm) on the first screw

We recommend for the mechanical mounting:

③ 2 x resistor mounting screw M4x12, minimum advised screw length (not provided)

④ 2 x M4 washer grower (not provided)

⑤ 2 x contact washers CS (not provided)

## 3. ELECTRICAL INTERFACE SET UP

The following equipment must be used:

① 4 x screws M4x6 for electrical connections, with a minimum advised screw length (not provided)

② 4 x contact washers CS for electrical connections (not provided)

Apply a nominal tightening torque of 1.3 Nm (± 0.2 Nm) to the electrical connections.

## 4. PRODUCT END OF LIFE

In order to preserve, protect and improve the quality of the environment, as well as to protect the health of human beings and to use natural resources prudently, the user is asked to treat the product at the end of its life in accordance with regulations in force in the country of use.

Packaging materials (cardboard, plastics, pallets) should be reused or recycled in a specialized sector in the treatment of packaging materials.

Plastic and metallic parts can be separated from the resistor and recycled in a specialized sector in their treatment.

The rest of product must be considered as ordinary industrial waste (OIW).