



Mounting Recommendations for RCEC ISO F and V Resistors

By Benjamin Larcher

RCEC ISO OVERVIEW

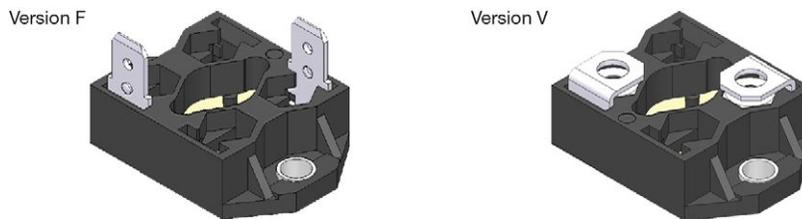


Fig. 1

MECHANICAL INTERFACE SET UP

Make sure that the dissipation area of the heatsink has been properly set up to ensure expected performance. The maximum flatness defect must not exceed 0.05 mm. The interface between the heatsink and the resistor has to be free of any holes, scratches, flaws, or foreign objects. Heatsink contact surface roughness has to be less than Ra 6.3 μm.

Mount the resistor on the heatsink following operations 1, 2, 3, and 4.

OPERATION 1

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

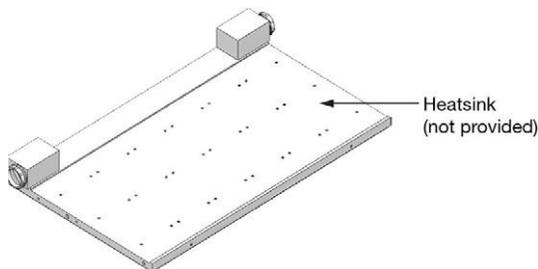


Fig. 2

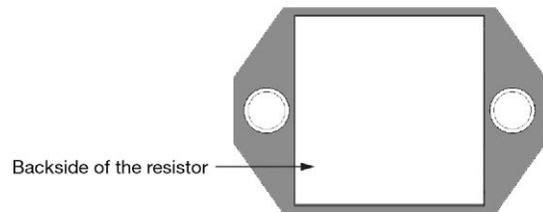


Fig. 3

OPERATION 2

Use a thermal interface material, such as a thermal paste, between the heatsink and the resistor to ensure proper power dissipation. A thermal interface material thickness of 0.05 mm max. and thermal resistance ≤ 0.025 °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).

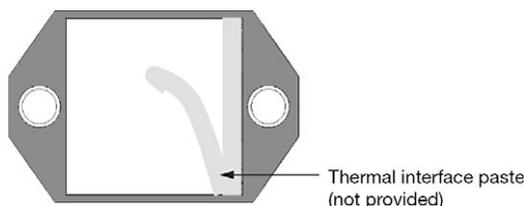


Fig. 4

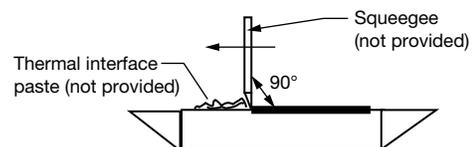


Fig. 5

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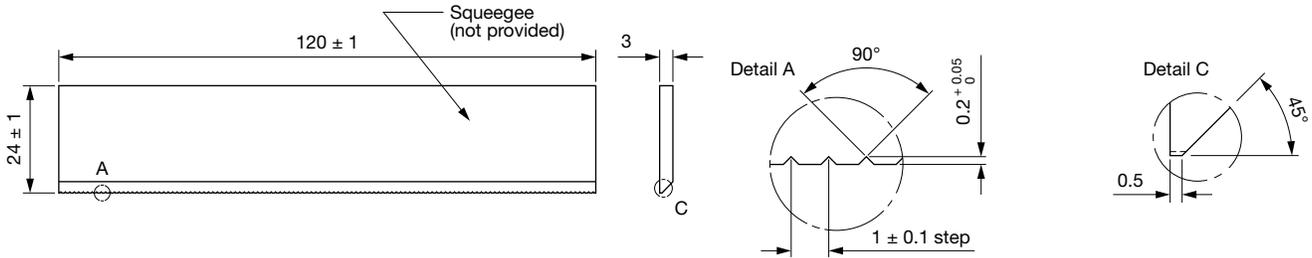


Fig. 6

OPERATION 3

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).

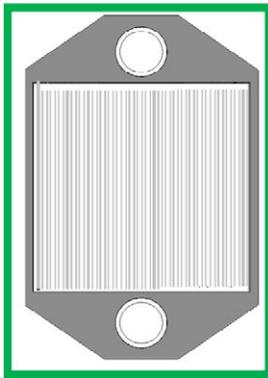


Fig. 07 - OK

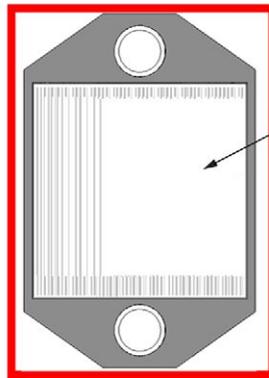


Fig. 08 - NOT OK

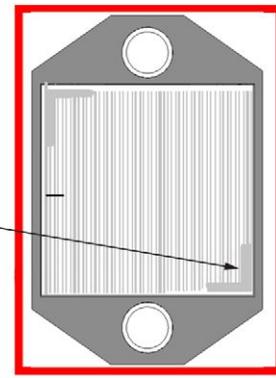


Fig. 09 - NOT OK

OPERATION 4

Transmit a rotational movement of $\pm 5^\circ$ to 10° (Fig. 10) to the resistor after putting it on the heatsink.

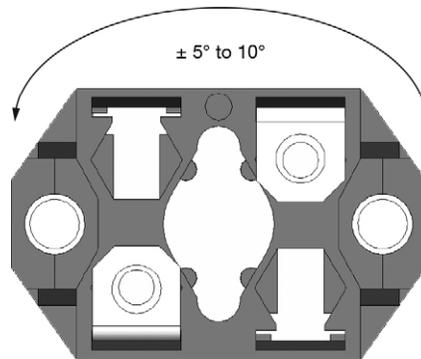


Fig. 10

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 0.8 N.m.



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ELECTRICAL INTERFACE SET UP

V Version

You must use the following equipment:

- M4 x 6 mm screws for electrical connections, minimum advised screw length (not included)
- Contact washers CS for electrical connections (not included)

Apply a nominal tightening torque of 1.3 Nm on the electrical connections.

F Version

You must use a compatible faston connector.