



Mounting Recommendations for RCEC 500, RCEC 750, and RCMC Resistors With Phase Change Thermal Interface Material (PC-TIM)

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ASSEMBLY DIAGRAM

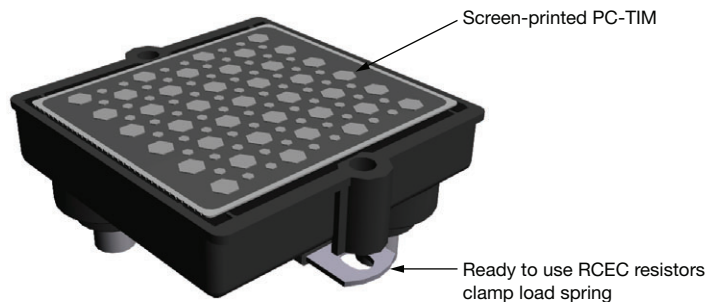


Fig. 1

TRANSPORT AND STORAGE

A resistor should be kept inside its original packaging until you are ready to mount it immediately in a dry place according to the environmental conditions given in its datasheet. The highest storage temperature advised is 40 °C.

A horizontal storage position is preferred but is not mandatory. Mechanical contact with the PC-TIM should be avoided.

HEATSINK MOUNTING

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

Special attention should be taken to avoid any kind of contact with the PC-TIM during resistor handling.

The mounting of the resistor on a heatsink must follow operations 1, 2, 3, and 4 below.

OPERATION 1

Clean the heatsink (Fig. 2) with an ethanol-soaked wipe.

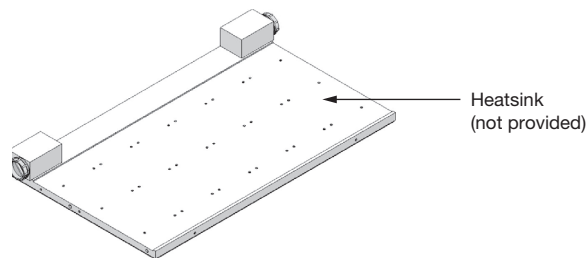


Fig. 2

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OPERATION 2

Check that the PC-TIM functional surface has been protected against contact or contamination by dust, grease, and oils. The resistor should be used within a maximum of 12 months after the part manufacturing date displayed on its side (Fig. 3).

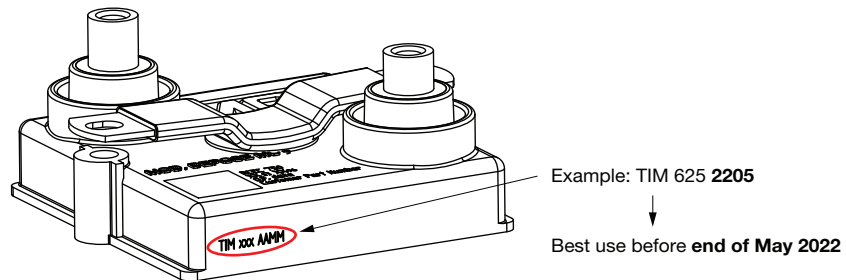


Fig. 3

OPERATION 3

We recommend using the following screws and washers (not provided):

- Two M4 x 25 mm screws for mechanical fixation (minimum recommended screw length)
- Contact washers CS for mechanical fixation

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 or spring washer (recommended washers). Then apply the nominal tightening torque of 1.9 Nm (± 0.1 Nm). It is also possible to mount the resistor using a three-step sequence:

1. Apply a pre-tightening torque of 0.8 Nm maximum on the first screw
2. Apply a nominal tightening torque of 1.9 Nm (± 0.1 Nm) on the second screw
3. Apply a nominal tightening torque of 1.9 Nm (± 0.1 Nm) on the first screw

OPERATION 4

For full thermal performance, the PC-TIM must be activated by applying temperature or power to achieve a minimum temperature of 60 °C on the bottom case of the component for a minimum of 60 s. Never apply more than 50 % of nominal power while the PC-TIM is not fully activated.

ELECTRICAL INTERFACE SET-UP

We recommend using the following screws and washers (not provided):

- Two M5 x 6 mm screws for electrical connection (minimum recommended screw length)
- Contact washers CS for electrical connection

Apply a nominal tightening torque of 1.9 Nm (± 0.1 Nm) on the electrical connections.

To check the maximum size of the electrical screw, use the minimum available threaded screw hole of 8 mm, which needs to be considered together with your own overall electrical connection thickness.

REPLACEMENT

In case of any resistor disassembly, the thermal interface is permanently damaged when removed from its original mounting slot. The resistor cannot be used again.

In order to ease disassembly, you might use a heatsink heated up to 50 °C in order to soften the PC-TIM material.