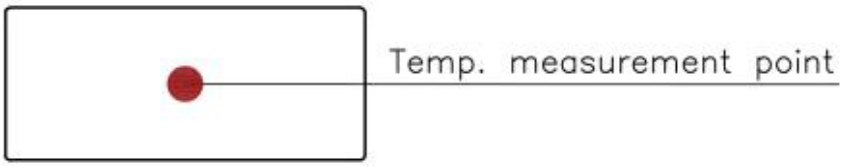
Thermal considerations

It is a physical condition that power conversion over a galvanic isolation comes along with some power loss. This power loss is transformed to heat which might reduces the lifetime of electronic components. It is our design guideline to use best resistant components and to optimize the dissipation of internal heat. But please take in consideration that the environment has an impact on the heat exchange process and the heat emission of the DC/DC converter can have an impact on other components nearby. Avoid heat accumulation!
Operating temperature range is typically specified for an ambient with free air convection. If free air convection is not given it is recommended to simulate the worst case condition (concerning environment temperature and power) and measure the temperature on top of the converter as per below.

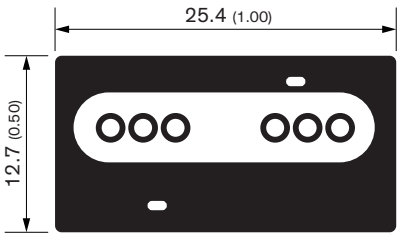


TMR 12WI series has two additional case pins which do not have any technical function. They can be used to increase the cooling performance by transfering heat away from the converter to the PCB.

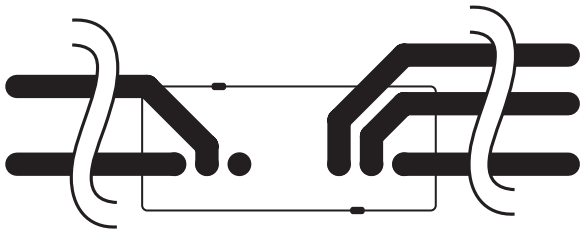
To increase the cooling performance we recommend placing a solid copper area underneath the converter on the pcb. (To ensure proper cooling the case pins must been soldered to the PCB as well.)

Furthermore, we recommend placing traces with a width of 2 mm min.
(Placing the traces on the bottom side is necessary for isolation reasons.)

Thermal layout suggestions:



TOP VIEW



BOTTOM VIEW

All dimensions in mm (inch)