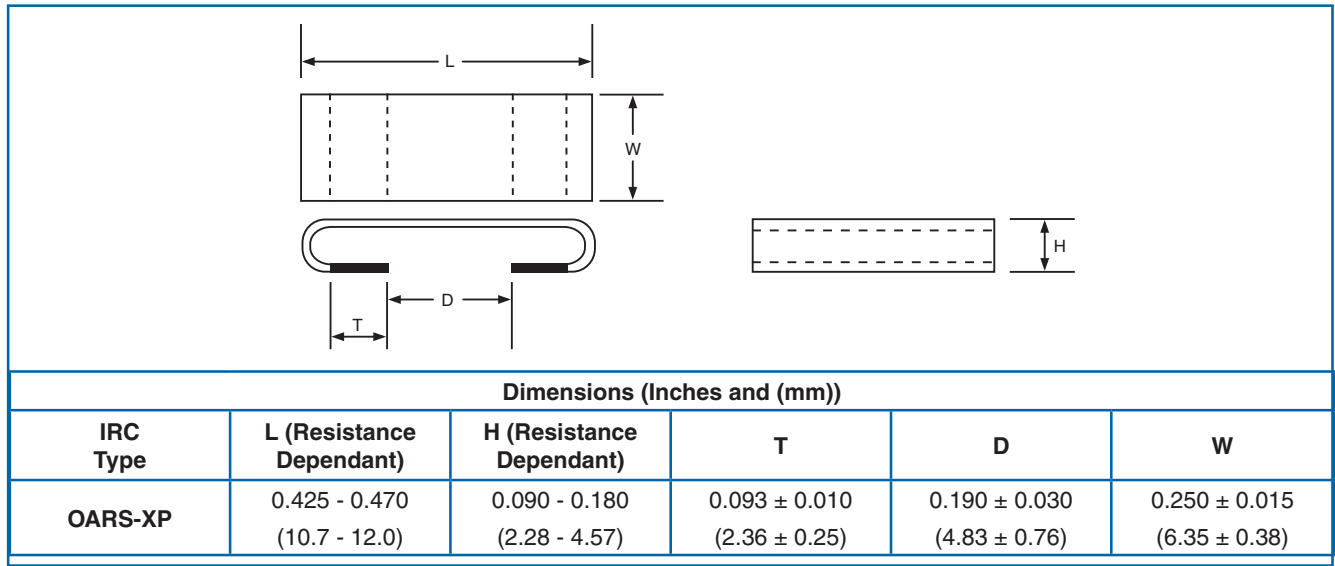
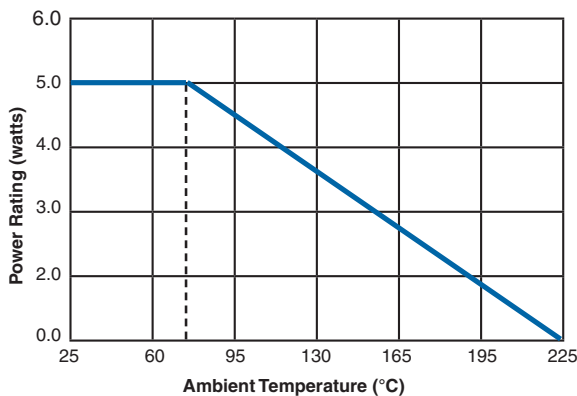


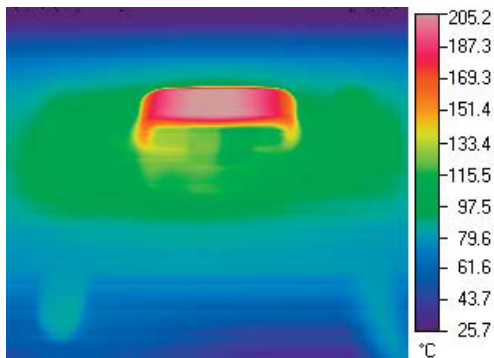
Physical Data



Power Derating Curve



Note:
The power derating curve is a guidance based on a conservative design model. The OARS XP is a solid metal alloy construction that can withstand significantly greater operating temperatures than conservative design models permit. The resistive alloys can withstand temperatures in excess of 350°C. Therefore, the system thermal design is a more significant design parameter due to the heat limitations of solder joints and/or circuit board substrate materials. Refer to additional information below.



OARS XP R0025 Thermal Image @ 5 Watts
Ambient conditions, No forced air.

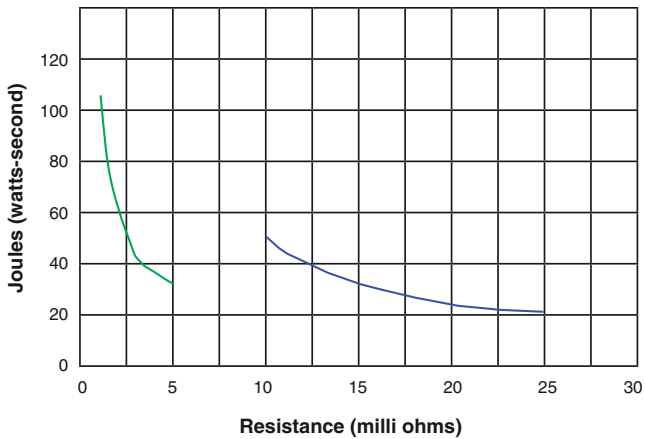
The thermal image (not a simulation) to the left is of an OARS XP 2.5 mΩ running at 5 Watts. Notice the hotspot is nearly 205°C, but the solder joint is approximately 115°C (FR4 is rated for 130°C). The unique construction of the OARS XP isolates the hotspot from the circuit board material preventing damage. Additionally, the thermal energy is dissipated to the air instead of being conducted into the circuit board potentially causing a nearby power component to exceed its rating.

The standard test circuit board consists of a four layer FR4 material with 2 ounce outer layers and 1 ounce inner layers, which is typical of many industry designs. Contact IRC for more details or for other thermal image test data for specific resistance values and power levels.

General Note

TT electronics reserves the right to make changes in product specification without notice or liability.
All information is subject to TT electronics' own data and is considered accurate at time of going to print.

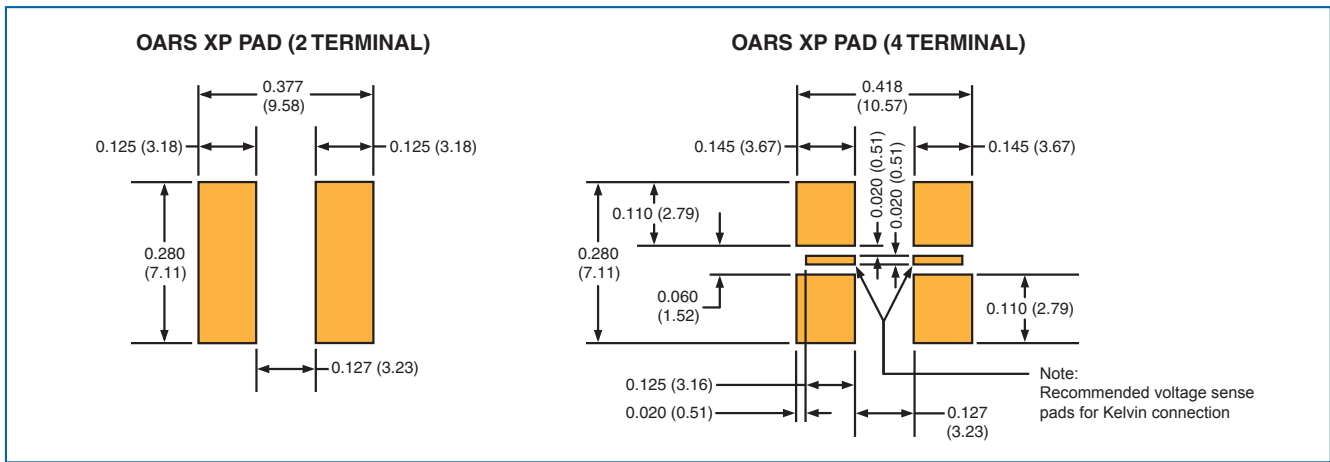
Pulse/Surge Chart



Note:
The high pulse surge capability of the OARS parts is attributed to the solid metal alloy construction. In many applications the cross-section of the OARS is greater than the cross-section of the board traces connecting the parts to the circuit board.

Cross-Sectional area ranges from approximately 1375 mils to 7250 mils.

Recommended Pad Layout



Note: Recommended pad layout is based on the dimensional requirements to electrically attach to the component. Further minimum pad requirements should account for the total thermal performance characteristics of the system; such as operating currents, thermal dissipation capabilities of the circuit board, environmental considerations, nearby heat generating components...

Ordering Data

Sample Part No. **OARS** - **XP** **R005** **J** **LF**

IRC Type
OARS

Size
R005

Resistance Range (ohms)
J

Tolerance
(F = ±1%, J = ±5%)

RoHS Indicator
LF