Resistors - High Temperature (215 °C) Thin Film Chip

THIN FILM RESISTOR
PLTT

Precision Low TCR, High Temperature up to 215 °C, Thin Film Resistor, Surface-Mount Chip

KEY BENEFITS

• Wide operating temperature range up to 215 °C
• Absolute TCR of ± 5 ppm/°C
• Tolerances to ± 0.02 %
• 250 Ω to 3 MΩ resistance range
• Noise of < - 35 dB
• Voltage coefficients of 0.1 ppm/V
• 75 V to 200 V voltage range

APPLICATIONS

• High-temperature down hole applications
• High-precision oil/gas exploration
• Telecommunications
• Industrial applications

RESOURCES

• For technical questions contact thinfilm@vishay.com
Precision Low TCR, High Temperature up to 215 °C, Thin Film Resistor, Surface-Mount Chip

Vishay’s proven precision thin film wraparound resistors will meet your exact requirements. These resistors are ideal for use in oil industry precision applications requiring low noise, long term stability under high temperature, ultra low temperature coefficient of resistance, and low voltage coefficient. The chip resistors are available in any resistance ohmic value in the range specified below.

**FEATURES**
- -55 °C to 215 °C operating temperature range
- TCR of ± 5 ppm/°C standard
- Tolerances to ± 0.02 %
- Anti corrosion resistant film with (SPM) special passivation method
- Stable film and performance characteristics
- 0.5 % max. at 2000 h, 215 °C, 25 % rated power
- Non-standard resistance values available
- Very low noise and voltage coefficient (< -30 dB, 0.1 ppm/V)
- UL 94 V-0 flame resistant
- Gold terminations (10 μ" to 20 μ")
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition

**CONSTRUCTION**

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- -55 °C to 215 °C operating temperature range
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**TYPICAL PERFORMANCE**

**STANDARD ELECTRICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>TEST</th>
<th>SPECIFICATIONS</th>
<th>CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Passivated nichrome</td>
<td>-</td>
</tr>
<tr>
<td>Resistance Range</td>
<td>250 Ω to 3 MΩ</td>
<td>-</td>
</tr>
<tr>
<td>TCR: Absolute</td>
<td>± 5 ppm/°C</td>
<td>-55 °C to + 125 °C</td>
</tr>
<tr>
<td>Tolerance: Absolute</td>
<td>± 0.1 % to ± 0.02 %</td>
<td>+ 25 °C</td>
</tr>
<tr>
<td>Stability: Absolute</td>
<td>ΔR ± 0.5 %</td>
<td>2000 h at 215 °C, 25 % rated power</td>
</tr>
<tr>
<td>Stability: Ratio</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Voltage Coefficient</td>
<td>± 0.1 ppm/V (typical)</td>
<td>-</td>
</tr>
<tr>
<td>Working Voltage</td>
<td>100 V to 200 V</td>
<td>-</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>- 55 °C to + 215 °C</td>
<td>-</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>- 55 °C to + 215 °C</td>
<td>-</td>
</tr>
<tr>
<td>Noise</td>
<td>&lt; - 35 dB (typical)</td>
<td>-</td>
</tr>
<tr>
<td>Shelf Life Stability: Absolute</td>
<td>ΔR ± 0.01 %</td>
<td>1 year at + 25 °C</td>
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</tbody>
</table>

**COMPONENT RATINGS**

<table>
<thead>
<tr>
<th>CASE SIZE</th>
<th>POWER RATING (mW)</th>
<th>WORKING VOLTAGE (V)</th>
<th>RESISTANCE RANGE (Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0805</td>
<td>250 at 70 °C</td>
<td>100</td>
<td>250 to 260K</td>
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<tr>
<td>1206</td>
<td>400 at 70 °C</td>
<td>200</td>
<td>500 to 775K</td>
</tr>
<tr>
<td>2010</td>
<td>800 at 70 °C</td>
<td>200</td>
<td>500 to 2M</td>
</tr>
<tr>
<td>2512</td>
<td>1000 at 70 °C</td>
<td>200</td>
<td>500 to 3M</td>
</tr>
</tbody>
</table>

**Note**
- Consult factory for additional case size

* Pb containing terminations are not RoHS compliant, exemptions may apply