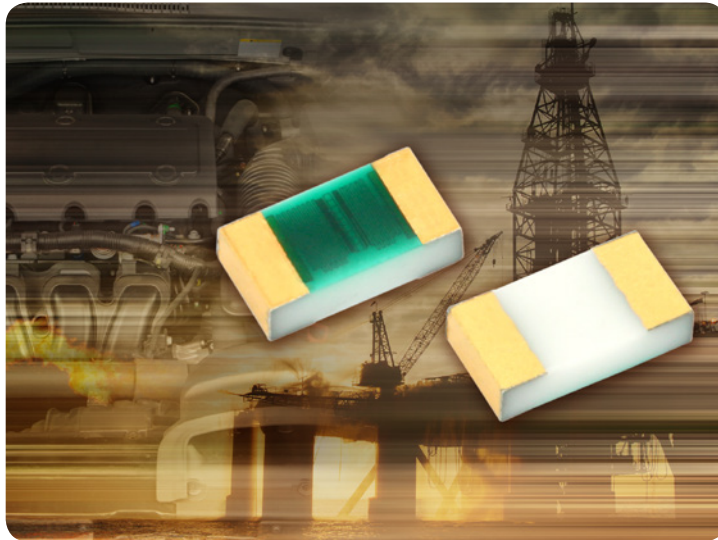




THIN FILM CHIP RESISTORS

PATT Series

Precision Automotive High-Temperature (155 °C at Full Rated Power) Thin Film Chip Resistor, AEC-Q200 Qualified



KEY BENEFITS

- Wide operating temperature range of -55 °C to 155 °C at 100 % rated power, derated to 25 % of rated power at 230 °C
- Absolute TCR of ± 25 ppm/°C
- Tolerances to ± 0.1 %
- 2.75 Ω to 301 k Ω resistance range
- Very low noise coefficient of < -30 dB
- Voltage coefficient of 0.1 ppm/V
- 75 V to 100 V voltage range

APPLICATIONS

- High-temperature automotive applications, under the hood applications
- High-precision oil/gas exploration
- Telecommunications
- Industrial applications

RESOURCES

- Datasheet: [PATT - www.vishay.com/doc?60124](http://www.vishay.com/doc?60124)
- For technical questions contact thinfilm@vishay.com
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

HALOGEN
FREE

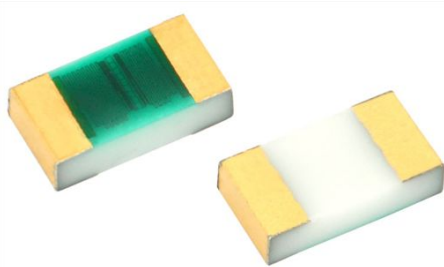
GREEN
(S-2008)

One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components



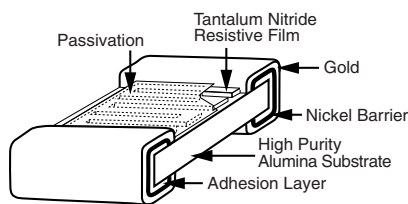
Resistors – High-Temperature AEC-Q200 Qualified

Precision Automotive High-Temperature (155 °C at Full Rated Power) Thin Film Chip Resistor, AEC-Q200 Qualified



The terminations consist of an adhesion layer, a leach resistant nickel barrier and gold plating compatible with high temperature solder systems.

CONSTRUCTION



FEATURES

- Resistance range: 2.75 Ω to 301 k Ω
- AEC-Q200 qualified, table 7F
- AEC-Q200 qualified, ESD rated class 1C (< 1 k Ω : 1 kV; > 1 k Ω : 2 kV)
- Laser trimmed to any value
- Intrinsic moisture protected resistor element
- Moisture resistant to MIL-STD-202, method 106
- Tantalum nitride resistor film on alumina substrate
- 100 % visual inspected per MIL-PRF-55342
- Laser-trimmed tolerances to ± 0.1 %
- Load life stability 0.2 % at 1000 h at 155 °C and 100 % rated power
- Very low noise and voltage coefficient (< -30 dB, < 0.1 ppm/V)
- Sulfur resistant (per ASTM B809-95 humid vapor test)
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

TYPICAL PERFORMANCE

	ABSOLUTE
TCR	25
TOL.	0.1

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Tantalum nitride	-
Resistance Range	2.75 Ω to 301 k Ω	-
TCR: Absolute	± 25 ppm/ $^{\circ}$ C to ± 100 ppm/ $^{\circ}$ C	-55 °C to +175 °C
Tolerance: Absolute	± 0.1 % to ± 1.0 %	+25 °C
Stability: Absolute	± 0.2 %	1000 h at 155 °C and 100 % rated power
Stability: Ratio	Not applicable	-
Voltage Coefficient	Less than 0.1 ppm/V	-
Working Voltage	75 V	-
Operating Temperature Range	-55 °C to +250 °C	-
Storage Temperature Range ⁽¹⁾	-55 °C to +250 °C	-
Noise	< -30 dB	-
Shelf Life Stability: Absolute	100 ppm	1 year at 25 °C

Note

⁽¹⁾ Storage temperature rating is for device only.

COMPONENT RATINGS

CASE SIZE	POWER RATING (mW)	WORKING VOLTAGE (V)	RESISTANCE RANGE (Ω)
0603	150	75	2.75 to 120K
0805	200	100	2.75 to 301K