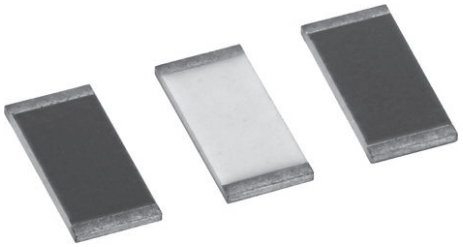
Precision Low TCR High Temperature Thin Film Resistor, Surface Mount Chip, ± 5 ppm/°C TCR, 0.02 % Tolerance



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")
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

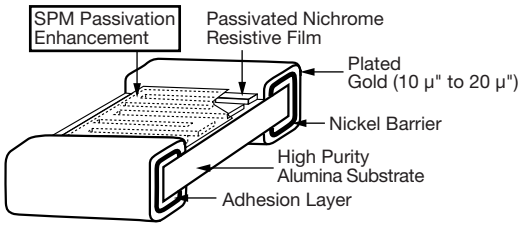
RoHS* COMPLIANT

HALOGEN FREE

Note

* Lead (Pb)-containing terminations are not RoHS-compliant. Exemptions may apply.

CONSTRUCTION



TYPICAL PERFORMANCE

	ABSOLUTE
TCR	5
TOL.	0.02

STANDARD ELECTRICAL SPECIFICATIONS

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

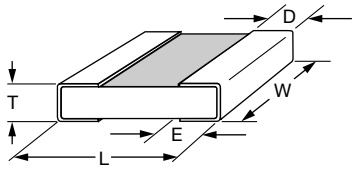
COMPONENT RATINGS

CASE SIZE	POWER RATING (mW)	WORKING VOLTAGE (V)	RESISTANCE RANGE (Ω)
0805	250 at 70 °C	100	250 to 260K
1206	400 at 70 °C	200	500 to 775K
2010	800 at 70 °C	200	500 to 2M
2512	1000 at 70 °C	200	500 to 3M

Note

- Consult factory for additional case size

DIMENSIONS in inches

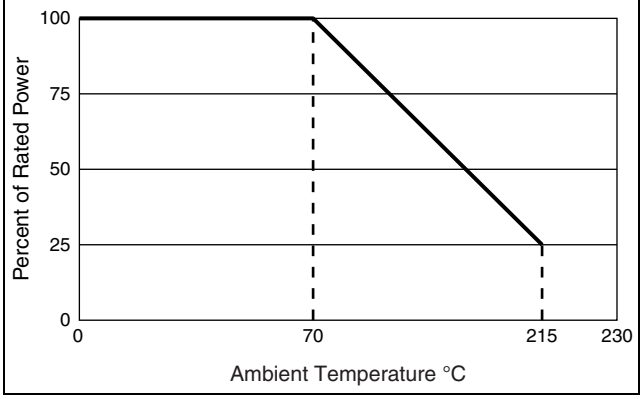


CASE SIZE	TERM	L	W	T	D	E
0805	G	0.080 ± 0.006	0.050 ± 0.005	0.015 to 0.033	0.016 ± 0.008	0.015 ± 0.005
1206	G	0.126 ± 0.008	0.063 ± 0.005	0.015 to 0.033	0.020 + 0.005/- 0.010	0.020 + 0.005/- 0.010
2010	G	0.209 ± 0.009	0.098 ± 0.005	0.015 to 0.033	0.020 ± 0.005	0.020 ± 0.005
2512	G	0.259 ± 0.009	0.124 ± 0.005	0.015 to 0.033	0.020 ± 0.005	0.020 ± 0.005

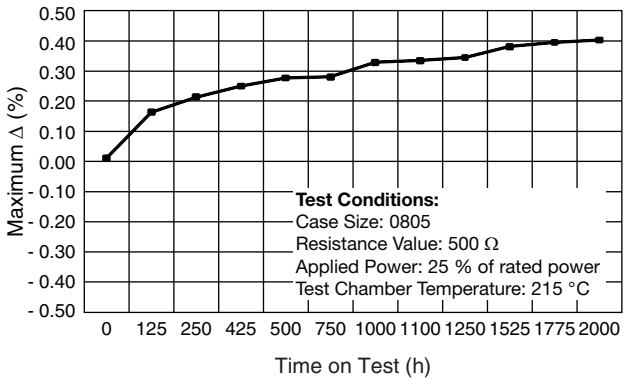
ENVIRONMENTAL TESTS - TYPICAL

ENVIRONMENTAL TEST	10 kΩ Δ*R* ± (%)	100 kΩ Δ*R* ± (%)
Thermal Shock	0.02	0.02
Short Time Overload	0.01	0.01
Low Temperature Operation	0.01	0.01
Resistance to Solder Heat	0.01	0.01
Moisture Resistance	0.02	0.02
High Temperature Exposure	0.02	0.02
Load Life (25 % Power, 2000 h, + 215 °C)	0.5	0.5
TCR	± 5 ppm/°C	± 5 ppm/°C

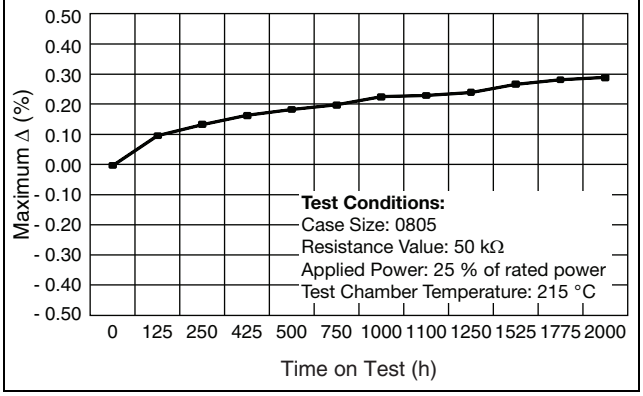
DERATING CURVE



PLTT0805 500 Ω STABILITY TEST RESULTS



PLTT0805 50 kΩ STABILITY TEST RESULTS



Note

- Performance obtained with following mounting conditions
  PCB: Polymide IPC-7831A STD land patterns
  Solder paste: PbSnAg (93.5/5/1.5)

GLOBAL PART NUMBER INFORMATION

P	L	T	T	0	8	0	5	Z	1	0	0	1	Q	G	T	1

GLOBAL MODEL	CASE SIZE	TCR CHARACTERISTIC	RESISTANCE	TOLERANCE	TERMINATION	PACKAGING
PLTT	**0805** **1206** **2010** **2512**	**Z** = ± 5 ppm/°C	The first 3 digits are significant figures and the last digit specifies the number of zeros to follow. "R" designates the decimal point. Example: **1001** = 1 kΩ **2500** = 250 Ω Special values with more than 4 significant figures, use a R for value below 1 kΩ and a K for values greater than 1 kΩ to signify a decimal point. **982R6** = 982.6 Ω **532R41** = 532.41 Ω	**Q** = ± 0.02 % **A** = ± 0.05 % **B** = ± 0.1 % **D** = ± 0.5 % **F** = ± 1 % **G** = ± 2 %	**G** = Wraparound Gold over Ni barrier (10 µ" min. Au)	**WS** = WAFFLE **WI** = 100 min./1mult (item single lot date code) **WP** = 100 min./1mult (package unit single lot date code) TAPE AND REEL **T1** = 1000 min., 1000 mult **T5** = 500 min., 500 mult **TF** = Full reel **TS** = 100 min., 1 mult **TI** = 100 min./1mult (item single lot date code) **TP** = 100 min., 1 mult (package unit single lot date code)

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