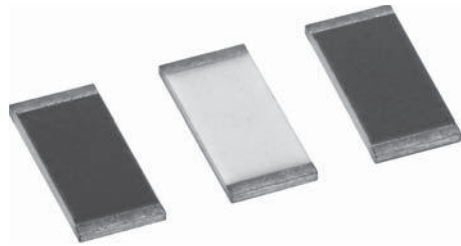


Precision Low TCR High Temperature Thin Film Resistor, Surface Mount Chip, ± 5 ppm/°C TCR, 0.02 % Tolerance



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.

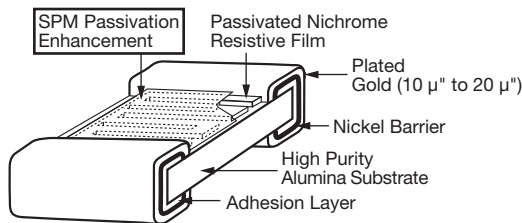
FEATURES

- - 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 ($10 \mu\text{m}$ to $20 \mu\text{m}$)
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS*
COMPLIANT
HALOGEN
FREE

CONSTRUCTION



TYPICAL PERFORMANCE

	ABSOLUTE
TCR	5
TOL.	0.02

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Resistance Range	250 Ω to 3 M Ω	-
TCR: Absolute	± 5 ppm/°C	- 55 °C to + 125 °C
Tolerance: Absolute	± 0.1 % to ± 0.02 %	+ 25 °C
Stability: Absolute	$\Delta R \pm 0.5$ %	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	$\Delta R \pm 0.01$ %	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

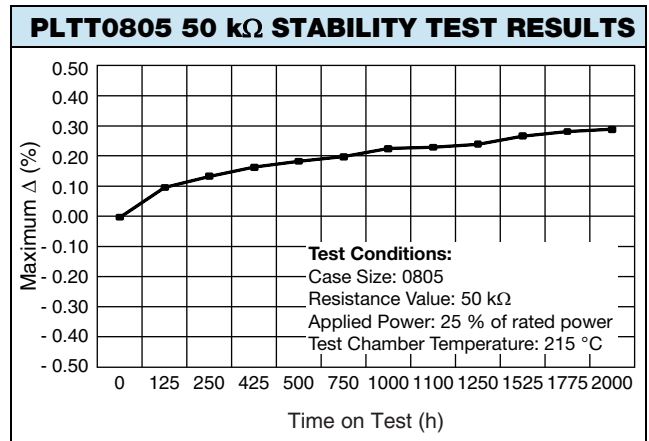
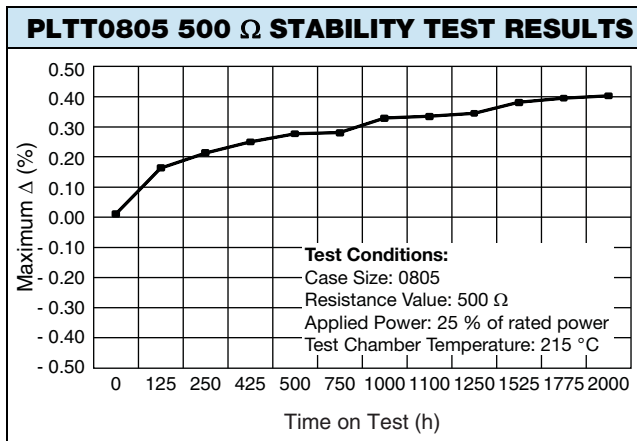
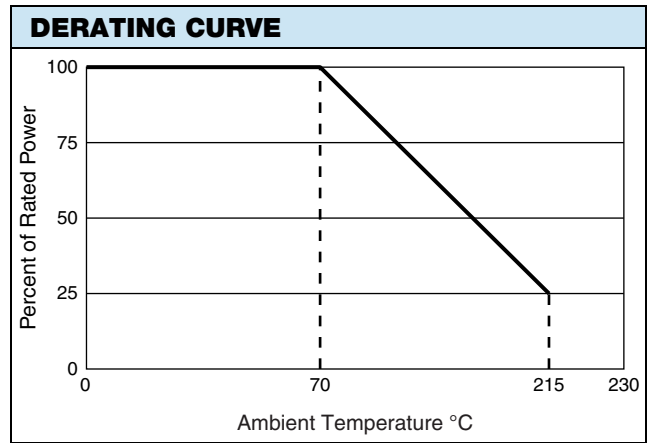
- Consult factory for additional case size

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

Vishay Dale Thin Film Precision Low TCR High Temperature Thin Film Resistor, Surface Mount Chip, $\pm 5 \text{ ppm}/^\circ\text{C}$ TCR, 0.02 % Tolerance

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 k Ω $\Delta R \pm$ (%)	100 k Ω $\Delta R \pm$ (%)
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	$\pm 5 \text{ ppm}/^\circ\text{C}$	$\pm 5 \text{ ppm}/^\circ\text{C}$



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



Precision Low TCR High Temperature Thin Film Resistor, Surface Mount Chip, ± 5 ppm/ $^{\circ}$ C TCR, 0.02 % Tolerance Vishay Dale Thin Film

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/ $^{\circ}$ C		<p>The first 3 digits are significant figures and the last digit specifies the number of zeros to follow. "R" designates the decimal point.</p> <p>Example: 1001 = 1 kΩ 2500 = 250 Ω</p> <p>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.</p> <p>982R6 = 982.6 Ω 532R41 = 532.41 Ω</p>		<p>Q = ± 0.02 % A = ± 0.05 % B = ± 0.1 %</p>		<p>G = Wraparound Gold over Ni barrier (10 μ" min. Au)</p>		<p>WS = WAFFLE WI = 100 min./1mult (item single lot date code) WP = 100 min./1mult (package unit single lot date code)</p> <p>TAPE AND REEL T1 = 1000 min., 100 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)</p>						



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