



THIN FILM RESISTORS

PLT Series



Precision Low TCR Thin Film Chip Resistors

KEY BENEFITS

- TCR of ± 5 ppm/ $^{\circ}\text{C}$ (over $- 55$ $^{\circ}\text{C}$ to $+ 125$ $^{\circ}\text{C}$)
- Tolerances to ± 0.01 %
- Anti-corrosion resistant film with special passivation method (SPM)
- Stable film and performance characteristics: 500 ppm at 70 $^{\circ}\text{C}$, 10 000 h
- Non-standard resistance values available
- Lead (Pb)-free or lead terminations available
- Very low noise and voltage coefficient: $< - 30$ dB, 0.1 ppm/V
- UL 94 V-0 flame resistant
- Compliant to RoHS directive

APPLICATIONS

- Industrial
- Military
- Aerospace
- Medical
- Telecommunications

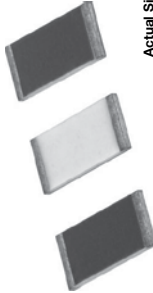
Precision Low TCR Thin Film Chip Resistors ± 5 ppm/°C TCR, 0.01 % Tolerance

FEATURES

- TCR of ± 5 ppm/°C standard
- Tolerances to ± 0.01 %
- Anti corrosion resistant film with (SPM) special passivation method
- Stable film and performance characteristics ($\Delta R \pm 0.04 \%$ at 70 °C, 10 000 h)
- Non-standard resistance values available
- Very low noise and voltage coefficient (< - 30 dB, 0,1 ppm/V)
- UL 94 V-0 flame resistant
- Compliant to RoHS directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition

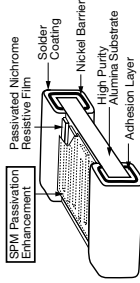


Actual Size 0603



Vishay's proven precision thin film wraparound resistors will meet your exact requirements. These resistors are ideal for precision applications requiring low noise stability, 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.

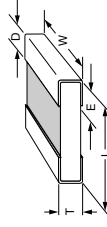
CONSTRUCTION



ABSOLUTE	
TCR	5
TOL.	0.01

TYPICAL PERFORMANCE

DIMENSIONS in inches



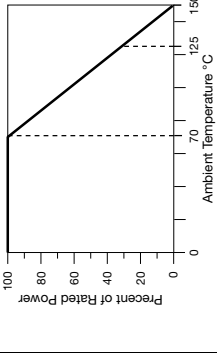
CASE SIZE	TERM	L	W	T	D	E
0603	B	0.064 ± 0.006	0.032 ± 0.005	0.020 max.	0.012 ± 0.005	0.015 ± 0.005
0705, 0805 (1)	B	0.080 ± 0.006	0.050 ± 0.005	0.015 to 0.033	0.016 ± 0.008	0.015 ± 0.005
1206	B	0.126 ± 0.008	0.063 ± 0.005	0.015 to 0.033	0.020 ± 0.005/- 0.010	0.020 ± 0.005/- 0.010

Note
(1) 0705 and 0805 are the same (only use 0805 when ordering)

ENVIRONMENTAL TESTS - TYPICAL

ENVIRONMENTAL TEST	10 kΩAR ± (%)	100 kΩAR ± (%)
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 (10 000 h, + 70 °C)	0.04	0.04
TCR	± 5 ppm/°C	

DERATING CURVE



GLOBAL PART NUMBER INFORMATION

GLOBAL MODEL	PLT	0603	0805	1206	TCR CHARACTERISTIC	Z	± 5 ppm/°C	RESISTANCE	RESISTANCE	TERMINATION	PACKAGING					
P	L	T	0	6	0	3	Z	1	0	0	1	Q	1	B	T	1

GLOBAL MODEL
The first 3 digits are significant figures and the last digit specifies the number of zeros to follow. "R" designates the decimal point.
Examples:
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

RESISTANCE
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TERMINATION
B = Wraparound Sn/Pb solder w/NI barrier (63 % Sn/37 % Pb w/ nickel barrier)
S = Wraparound lead (Pb)-free solder (96.5 % Sn/3.0 % Ag/ 0.5 % Cu, RoHS compliant - e1)

PACKAGING
WS = WAFFLE PACK
TAPE AND REEL
T0 = 100 min., 100 mult
T1 = 300 min., 300 mult
T2 = 500 min., 500 mult
TF = Full reel
T5 = 100 min., 1 mult

Note
(1) Preferred packaging code

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Resistance Range	250 Ω to 100 kΩ	-
TCR: Absolute	± 5 ppm/°C	-55 °C to + 125 °C
Tolerance: Absolute	± 0.1 % to ± 0.01 %	+ 25 °C
Stability: Absolute	$\Delta R \pm 0.02 \%$	2000 h at 70 °C
Stability: Ratio	-	-
Voltage Coefficient	± 0.1 ppm/V (typical)	-
Working Voltage	75 V to 200 V	-
Operating Temperature Range	-55 °C to + 125 °C	-
Storage Temperature Range	-55 °C to + 150 °C	-
Noise	< - 35 dB (typical)	-
Shelf Life Stability: Absolute	$\Delta R \pm 0.01 \%$	1 year at + 25 °C

CASE SIZE (1)	POWER RATING (mW)	WORKING VOLTAGE (V)	RESISTANCE RANGE (Ω)
0603	150	75	250 to 40K
0705	250	100	250 to 50K
0805	250	100	250 to 50K
1206	400	200	250 to 100K

Note
(1) 0705 and 0805 are the same (only use 0805 when ordering)

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