



Vishay Dale Thin Film

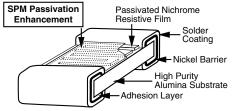
Commercial Thin Film Resistor, Surface Mount Chip

0505



For applications requiring low noise, stability, low temperature coefficient of resistance, and low voltage coefficient, all Vishay's proven precision thin film wraparound resistors will meet your exact requirements. Manufactured with the same material and processes as QPL and manufactured in a QPL facility.

CONSTRUCTION



FEATURES

- · Moisture resistant (SPM) special passivation method
- Non-standard values available
- Pre-tinned terminations over nickel barrier (gold available)
- Very low noise and voltage coefficient (< -35 dB, 0.1 ppm/V)
- Non-inductive
- Laser-trimmed tolerances to 0.02 %
- In-lot tracking less than 5 ppm/°C
- Epoxy bondable termination available
- Sulfur resistant (per ASTM B809-95 humid vapor test)
- Flame resistant UL 94 V-0
- · Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Note

This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

TYPICAL PERFORMANCE

	ABSOLUTE
TCR	25
TOL.	0.1

STANDARD ELECTRICAL SPECIFICATIONS				
TEST	SPECIFICATIONS	CONDITIONS		
Material	Passivated nichrome	-		
Resistance Range	10 Ω to 6.19 M Ω	-		
TCR: Absolute	± 10 ppm/°C to 100 ppm/°C	-55 °C to +125 °C		
Tolerance: Absolute	± 0.02 % to ± 5 %	+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 +155 °C	-		
Storage Temperature Range	-55 °C to +155 °C	-		
Noise	< -35 dB (typical)	-		
Shelf Life Stability: Absolute	$\Delta R \pm 0.01$ %	1 year at +25 °C		

COMPONENT RATINGS

CASE SIZE ⁽¹⁾	POWER RATING	WORKING VOLTAGE	RESISTANCE	E RANGE (Ω)
CASE SIZE ("	(mW)	(V)	≥ 0.1 %	< 0.1 %
0402	50	75	24.9 to 100K	250 to 100K
0502	100	75	20 to 150K	250 to 150K
0505	150	75	20 to 301K	250 to 301K
0603	150	75	10 to 261K	250 to 261K
0705	250	100	10 to 475K	250 to 475K
0805	250	100	10 to 475K	250 to 475K
1005	250	100	10 to 649K	250 to 649K
1010	500	150	50 to 1M	250 to 1M
1206	400	200	10 to 1.5M ⁽²⁾	250 to 1M
1505	400	150	10 to 1M	250 to 1M
2208	800	150	10 to 3.16M ⁽²⁾	250 to 1M
2010	800	200	10 to 4.02M ⁽²⁾	250 to 1M
2512	1000	200	10 to 6.19M ⁽²⁾	250 to 1M

Notes

⁽¹⁾ 0705 and 0805 are the same (only use 0805 when ordering) (2) Values > 1M best TCR ± 25 ppm/°C

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P-NS

<u>(5-2008)</u>

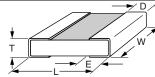


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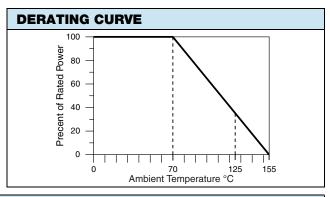
DIMENSIONS in inches

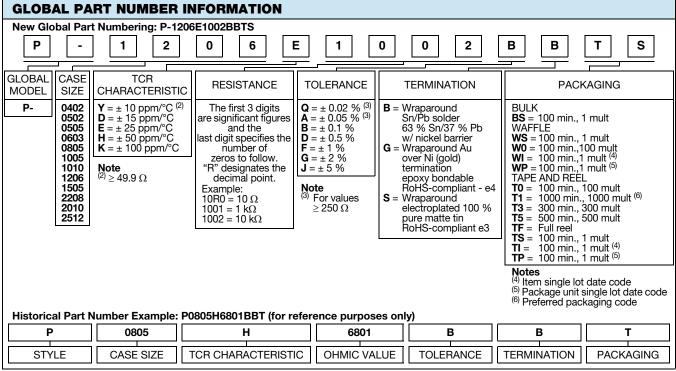


CASE SIZE	TERM	L	W	Т	D	E
0402	В	0.042 ± 0.008	0.022 ± 0.005	0.012 to 0.033	0.010 ± 0.005	0.010 ± 0.005
0502	В	0.055 ± 0.006	0.025 ± 0.005	0.012 to 0.033	0.010 ± 0.005	0.015 ± 0.005
0505	В	0.055 ± 0.006	0.050 ± 0.005	0.012 to 0.033	0.010 ± 0.005	0.015 ± 0.005
0603	В	0.064 ± 0.006	0.032 ± 0.005	0.020 max.	0.012 ± 0.005	0.015 ± 0.005
0705, 0805 ⁽¹⁾	В	0.080 ± 0.006	0.050 ± 0.005	0.015 to 0.033	0.016 ± 0.008	0.015 ± 0.005
1005	В	0.105 ± 0.007	0.050 ± 0.005	0.015 to 0.033	0.015 ± 0.005	0.015 ± 0.005
1010	В	0.105 ± 0.007	0.100 ± 0.005	0.015 to 0.033	0.015 ± 0.005	0.015 ± 0.005
1206	В	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
1505	В	0.155 ± 0.007	0.050 ± 0.005	0.015 to 0.033	0.015 ± 0.005	0.015 ± 0.005
2010	В	0.209 ± 0.009	0.098 ± 0.005	0.015 to 0.033	0.020 ± 0.005	0.020 ± 0.005
2208	В	0.230 ± 0.007	0.075 ± 0.005	0.015 to 0.033	0.020 ± 0.005	0.020 ± 0.005
2512	В	0.259 ± 0.009	0.124 ± 0.005	0.015 to 0.033	0.020 ± 0.005	0.020 ± 0.005
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⁽¹⁾ 0705 and 0805 are the same (only use 0805 when ordering).

10 kΩ ∧R	
± (%)	100 kΩ ∆R ± (%)
0.02	0.02
0.01	0.01
0.01	0.01
0.04	0.03
0.02	0.01
0.03	0.06
0.05	0.05
± 25 ppm/°C	± 25 ppm/°C
	0.02 0.01 0.01 0.04 0.02 0.03 0.05





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