Vishay Dale Thin Film

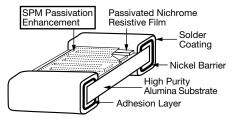
Precision Low TCR Thin Film Resistor, Surface Mount Chip, ± 5 ppm/°C TCR, 0.01 % Tolerance



www.vishay.com

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



FEATURES

- TCR of ± 5 ppm/°C standard
- Tolerances to ± 0.01 %
- · Anti corrosion resistant film with (SPM) special RoHS passivation method
- Stable film and performance characteristics (∆R ± 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
- 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	5	
TOL.	0.01	

STANDARD ELECTRICAL SPECIFICATIONS						
TEST	SPECIFICATIONS	CONDITIONS				
Material	Passivated nichrome	-				
Resistance Range	100 Ω to 3 M Ω	-				
TCR: Absolute	± 5 ppm/°C to ± 10 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				

COMPONENT RATINGS						
CASE SIZE	POWER RATING (mW)	WORKING VOLTAGE (V)	RESISTANCE RANGE (Ω)			
0603	150	75	100 to 130K			
0805	250	100	100 to 260K			
1206	400	200	100 to 775K			
2010	800	200	150 to 2M			
2512	1000	200	200 to 3M			

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1 For technical questions, contact: thinfilm@vishay.com Document Number: 60030

PLT



HALOGEN

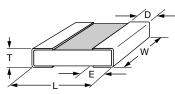
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DIMENSIONS in inches



CASE SIZE	TERM	L	w	Т	D	E
0603	B, S	0.064 ± 0.006	0.032 ± 0.005	0.020 max.	0.012 ± 0.005	0.015 ± 0.005
0805	B, S	0.080 ± 0.006	0.050 ± 0.005	0.015 to 0.033	0.016 ± 0.008	0.015 ± 0.005
1206	B, S	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	B, S	0.209 ± 0.009	0.098 ± 0.005	0.015 to 0.033	0.020 ± 0.005	0.020 ± 0.005
2512	B, S	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 (10 000 h, +70 °C)	0.04	0.04
TCR	± 5 ppm/°C	± 5 ppm/°C

GLOBAL PART NUMBER INFORMATION							
Ρ	P L T 0 6 0 3 Z 1 0 0 1 Q B T 1						
			′ _ ′ _				
GLOBAL MODEL	CASE SIZE	TCR CHARACTERISTIC	RESISTANCE	TOLERANCE	TERMINATION	PACKAGING	
PLT	0603	$\mathbf{Z} = \pm 5 \text{ ppm/°C}$	The first 3 digits are	L =	B = wraparound Sn / Pb	WS = WAFFLE PACK	
	0805	$\mathbf{Y} = \pm 10 \text{ ppm/}^{\circ}\text{C}$	significant figures and	± 0.01 % ⁽²⁾	solder w/ Ni barrier	WI = 100 min., 1 mult.	
	1206		the last digit specifies	Q = ± 0.02 %	(63 % Sn / 37 % Pb w/	(item single lot date code)	
	2010		the number of zeros to	A = ± 0.05 %	nickel barrier)	WP = 100 min., 1 mult.	
	2512		follow. "R" designates	B = ± 0.1 %		(package unit single	
			the decimal point.	D = ± 0.5 %	S = wraparound	lot date code)	
				F = ± 1 %	lead (Pb)-free solder		
			Example:		96.5 % Sn / 3.0 % Ag /	TAPE AND REEL	
			$1001 = 1 k\Omega$		0.5 % Cu	T0 = 100 min., 100 mult.	
			2500 = 250 Ω		RoHS compliant - e1	T1 = 1000 min., 1000 mult. ⁽¹⁾	
						T3 = 300 min., 300 mult.	
			Special values with more			T5 = 500 min., 500 mult.	
			than 4 significant figures, use a R for value below			TF = full reel	
			1 k Ω and a K for values			TS = 100 min., 1 mult.	
			greater than 1 k Ω to			TI = 100 min., 1 mult.	
			signify a decimal point.			(item single lot date code) TP = 100 min., 1 mult.	
1						(package unit single	
1			982R6 = 982.6 Ω			lot date code)	
			$532R41 = 532.41 \Omega$				
				l			

Notes

⁽¹⁾ Preferred packaging code

 $^{(2)}\,$ L and Q tolerances are available only for resistance values > 250 Ω

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2 technical guestions, contact: thinfilm@visha



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