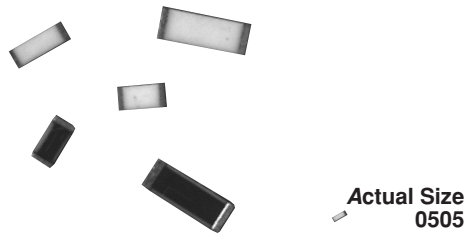


Commercial Thin Film Chip Resistors

SURFACE MOUNT CHIPS

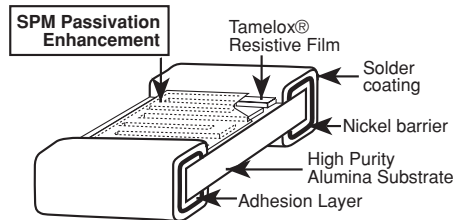


For applications requiring low noise, stability, low temperature coefficient of resistance, and low voltage coefficient, all VISHAY's proven precision thin film wraparound resistors will meet your exact requirements. Manufactured with the same material and processes as QPL and manufactured in a QPL facility.

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
- Non-inductive
- Laser-trimmed tolerances to 0.02%
- In-lot tracking less than 5ppm/°C

CONSTRUCTION



TYPICAL PERFORMANCE

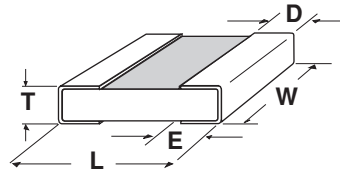
	ABS
TCR	25
TOL	0.1

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
MATERIAL	TAMELOX®	
Absolute TCR	± 25ppm/°C (Available to ± 10ppm/°C)	- 55°C to + 125°C
Absolute Tolerance:	± 0.1% (Available to ± 0.02%)	+ 25°C
Power Rating:	See table	
Voltage Coefficient	0.1ppm/Volt typical	
Working Voltage	See table	
Operating Temperature Range	- 55°C to +125°C	
Storage Temperature Range	- 55°C to + 150°C	
Noise	< - 35dB Typical	

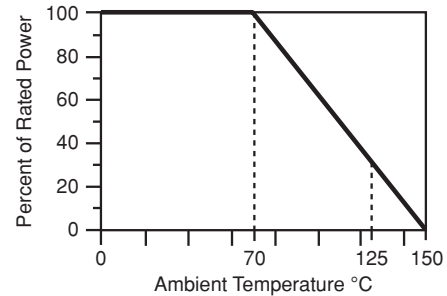
CASE SIZE	POWER RATING - (mW)		MAX WORKING VOLTAGE		RESISTANCE RANGE - (OHMS)	
	≥ 0.1%	< 0.1%	≥ 0.1%	< 0.1%	≥ 0.1%	< 0.1%
0402	50	50	75	75	100 – 70K	1K – 70K
0502	100	100	75	75	100 – 130K	1K – 130K
0505	150	150	75	75	20 – 301K	1K – 301K
0603	200	150	75	75	10 – 175K	1K – 175K
0805, 0705	250	200	100	100	10 – 475K	1K – 475K
1005	250	250	100	100	10 – 649K	1K – 649K
1010	500	500	150	100	50 – 1M	1K – 1M
1206	400	400	200	200	10 – 1M	1K – 1M
1505	400	400	150	150	10 – 1M	1K – 1M
2208	800	750	150	150	10 – 1.75M	1K – 1M
2010	800	750	200	150	10 – 2M	1K – 1M
2512	1000	750	200	200	10 – 3M	1K – 1M

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DIMENSIONS in inches


CASE SIZE	TERM	L	W	T	D	E
0402	B	0.042 ± 0.008	0.022 ± 0.005	0.012 to 0.033	0.010 ± 0.005	0.010 ± 0.005
0502	B	0.055 ± 0.006	0.025 ± 0.005	0.012 to 0.033	0.010 ± 0.005	0.015 ± 0.005
0505	B	0.055 ± 0.006	0.050 ± 0.005	0.012 to 0.033	0.010 ± 0.005	0.015 ± 0.005
0603	B	0.064 ± 0.006	0.032 ± 0.005	0.020 Max.	0.012 ± 0.005	0.015 ± 0.005
0805*, 0705*	B	0.080 ± 0.006	0.050 ± 0.005	0.015 to 0.033	0.016 ± 0.008	0.015 ± 0.005
1005	B	0.105 ± 0.007	0.050 ± 0.005	0.015 to 0.033	0.015 ± 0.005	0.015 ± 0.005
1010	B	0.105 ± 0.007	0.100 ± 0.005	0.015 to 0.033	0.015 ± 0.005	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
1505	B	0.155 ± 0.007	0.050 ± 0.005	0.015 to 0.033	0.015 ± 0.005	0.015 ± 0.005
2010	B	0.209 ± 0.009	0.098 ± 0.005	0.015 to 0.033	0.020 ± 0.005	0.020 ± 0.005
2208	B	0.230 ± 0.007	0.075 ± 0.005	0.015 to 0.033	0.020 ± 0.005	0.020 ± 0.005
2512	B	0.259 ± 0.009	0.124 ± 0.005	0.015 to 0.033	0.020 ± 0.005	0.020 ± 0.005

ENVIRONMENTAL TESTS		
Environmental Test	10K ohms ΔR ± (%)	100K ohms ΔR ± (%)
Thermal Shock	0.02	0.02
Short Time Overload	0.01	0.01
Low Temperature Operation	0.01	0.01
Resistance to Solder Heat	0.04	0.03
Moisture Resistance	0.02	0.01
High Temperature Exposure	0.03	0.06
Load Life (10,000 hrs, + 70°C)	0.05	0.05
TCR	± 25ppm/°C	± 25ppm/°C

DERATING CURVE

How to Order

STYLE	CASE SIZE	TCR CHARACTERISTIC	OHMIC VALUE	TOLERANCE	TERMINATION	PACKAGE
P Series	0402	Y = ±10 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. e.g. 10R0 = 10 ohms 1000 = 100 ohms 1001 = 1K ohms Non-standard values (3 decimal points) 10K125 = 10.125K ohms 100R15 = 100.15 ohms	P= ±0.02% W = ±0.05% B = ±0.1% D = ±0.5% F = ±1.0% G = ±2.0% J = ±5.0%	B = Solderable (solder coat w/ nickel barrier) G = Epoxy/Solderable AU over Ni S = Lead (Pb)-Free 96.5% Sn 3.0% Ag 0.5% Cu	T = Tape & Reel W = Waffle Pack
	0502	D = ±15 ppm/°C				
	0505	E = ±25 ppm/°C				
	0603	H = ±50 ppm/°C				
	0805*	K = ±100 ppm/°C				
	1005					
	1010	NOTE:				
	1206	Values to 10 ohms				
	1505	±25 ppm/°C best				
	2208					
2010						
2512						

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

Example: **P0805H6801BBT** is a thin film wraparound chip resistor, 80 x 50 mil, with a TCR of ±50 ppm/°C, a value of 6800 ohms, ±0.1% tolerance with solder coated nickel barrier terminations, on tape and reel packaging.

Lead (Pb)-Free Example: P1206EXXXBST

Consult factory for other sizes.

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