



THIN FILM RESISTORS

TNPW - Tin / Lead Solder Contacts

Thin Film, Rectangular, Precision Chip Resistors



KEY BENEFITS

- Tolerances down to ± 0.1 %
- Temperature coefficient from ± 10 ppm/K to ± 50 ppm/K
- SnPb termination plating, Pb content > 6 %
- Excellent overall stability at different environmental conditions ≤ 0.05 % (1000 h rated power at 70 °C)
- Broad range of industry-standard sizes: 0402, 0603, 0805, 1206, and 1210

APPLICATIONS

- Military
- Avionics
- Industrial

RESOURCES

- Datasheet: TNPW - <http://www.vishay.com/doc?31006>
- For technical questions contact thinfilmchip@vishay.com

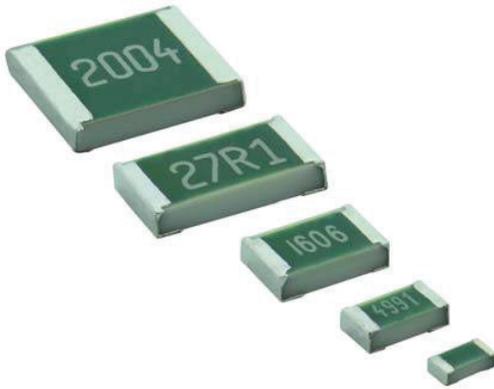




THIN FILM RESISTORS

TNPW - Tin / Lead Solder Contacts

Thin Film, Rectangular, Precision Chip Resistors



FEATURES

- Metal film layer on high quality ceramic
- SnPb termination plating, Pb content > 6 %
- Excellent overall stability at different environmental conditions $\leq 0.05\%$ (1000 h rated power at 70 °C)
- Low temperature coefficient and tight tolerances ($\pm 0.1\%$; ± 10 ppm/K)
- Single lot date code available

APPLICATIONS

- Military
- Avionics
- Industrial

TNPW High Stability Thin Film Chip Resistors are the perfect choice for most fields of modern electronics where lead (Pb)-bearing terminations are mandatory and reliability and stability are of major concern.

TECHNICAL SPECIFICATIONS					
DESCRIPTION	TNPW0402	TNPW0603	TNPW0805	TNPW1206	TNPW1210 ⁽¹⁾
Imperial size	0402	0603	0805	1206	1210
Metric size code	RR1005M	RR1608M	RR2012M	RR3216M	RR3225M
Resistance range	10 Ω to 100 k Ω	10 Ω to 332 k Ω	10 Ω to 1 M Ω	10 Ω to 2 M Ω	10 Ω to 3.01 M Ω
Resistance tolerance	$\pm 1\%$; $\pm 0.5\%$; $\pm 0.1\%$				
Temperature coefficient	± 50 ppm/K; ± 25 ppm/K; ± 15 ppm/K; ± 10 ppm/K				
Climatic category (LCT/UCT/days)	55/125/56	55/125/56	55/125/56	55/125/56	55/125/56
Rated dissipation, P_{70} ⁽²⁾	0.063 W	0.1 W	0.125 W	0.25 W	0.33 W
Operating voltage, U_{max} , AC _{RMS} or DC	50 V	75 V	150 V	200 V	200 V
Permissible film temperature, $\vartheta_{F max}$.	155 °C				
Operating Temperature Range	-55 °C to 125 °C (155 °C)				
Thermal resistance ⁽³⁾	870 K/W	550 K/W	440 K/W	220 K/W	170 K/W
Insulation voltage:					
U_{ins} 1 min	75 V	100 V	200 V	300 V	300 V
Continuous	75 V	75 V	75 V	75 V	75 V
Failure rate: FIT _{observed}	$\leq 0.3 \times 10^{-9}/h$				

Revision 24-Jan-14

Notes

- ⁽¹⁾ The detail specification EN140401-801 does not cover this product size.
- ⁽²⁾ Rated voltage $\sqrt{P \times R}$. The power dissipation on the resistor generates a temperature rise against the local ambient, depending on the heat flow support of the printed-circuit board (thermal resistance). The rated dissipation applies only if the permitted film temperature is not exceeded.
- ⁽³⁾ Measuring conditions in accordance with EN 140401-801.