

## Z201

## Vishay Foil Resistors



## Ultra-Performance Aerospace and Instrumentation Resistor

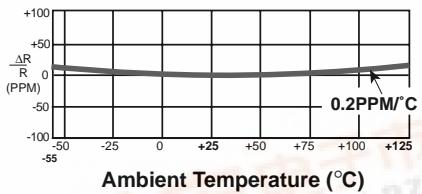


Product may not be to scale

The Z201 (0.150 lead spacing) and Z201L (0.200 lead spacing) Bulk Metal® Foil resistors represent an industry breakthrough. This is the 3rd in a series of ultra-precision resistors since the first Bulk Metal® Foil resistor was introduced by Vishay in 1962. Each represents an improvement on the earlier model. The TCR slope of the Z201 is 0.2ppm/°C (MIL range) and is an order of magnitude better than the original S102C. The Bulk Metal® Foil resistor is the ultimate choice in the most demanding analog applications.

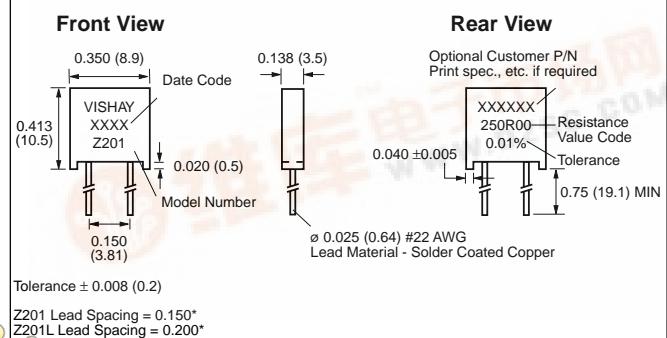
THROUGH HOLE

**FIGURE 1 - NOMINAL TCR**



The TCR is obtained by the process capability and does not rely on a selection process. It does not vary from lot to lot nor by ohmic value.

**FIGURE 2 - STANDARD IMPRINTING AND DIMENSIONS**  
in inches (millimeters)



### FEATURES

- Industry Breakthrough
- Nominal TCR: 0.2ppm/°C MIL range\*
- Load Life Stability: 0.005% 2000 Hrs @ 0.1Watt
- Absolute Tolerance: To 0.005%
- Resistance Range: 100Ω to 100KΩ
- Power Rating: 0.6Watts @ 70°C (0.3 Watts @ 125°C)
- Current Noise: 0.010µV/V (RMS)
- Thermal EMF: 0.1µV/°C Max; 0.05 Typical
- Rise/Decay Time: 1.0 Nanosecond @ 1KΩ

**TABLE 1 - Z201 SPECIFICATIONS**

<b>TCR</b>	0.1ppm/°C Nominal (0°C to 60°C) 0.2ppm/°C Nominal (- 55°C to + 125°C) 0.8ppm/°C Maximum (- 55°C to + 125°C)
<b>Stability</b> Load Life at 2,000 Hrs	± 0.005% Max ΔR @ 0.1W/+ 70°C ± 0.015% Max ΔR @ 0.3W/+ 125°C
Load Life at 10,000 Hrs	± 0.01% Max ΔR @ 0.05W/+ 125°C ± 0.05% Max ΔR @ 0.3W/+ 125°C
<b>Shelf Life Stability</b>	± 0.0025% Max ΔR after 1 year ± 0.005% Max ΔR after 3 years
<b>Current Noise</b>	0.010µV (RMS)/Volt of applied voltage (- 40 dB)
<b>High Frequency Operation</b> Rise/Decay Time Inductance (L) Capacitance (C)	1.0 nanosecond @ 1KΩ 0.1µH maximum; 0.08µH typical 1.0pF maximum; 0.5pF typical
<b>Voltage Coefficient</b>	< 0.1ppm/V
<b>Thermal EMF</b>	0.1µV/°C Max; 0.05µV/°C Typical

### ORDERING INFORMATION “Z” RESISTORS:

Please specify Vishay “Z” resistors as follows: (See Imprinting Illustration and Table 1 for further details.)

Example: **Z201**      **250R00**      **0.01%**  
MODEL NO.    RESISTANCE VALUE    TOLERANCE

Resistance Value, in ohms, is expressed by a series of 6 characters, 5 of which represent significant digits while the 6th is a dual purpose letter that designates both the multiplier and the location of the comma or decimal point.

RESISTANCE RANGE	LETTER DESIGNATOR	MULTIPLIER FACTOR	EXAMPLE
100Ω to <1KΩ	R	x1	100R01 = 100.01Ω
1KΩ to <100KΩ	K	x10 <sup>3</sup>	15K231 = 15,231Ω

