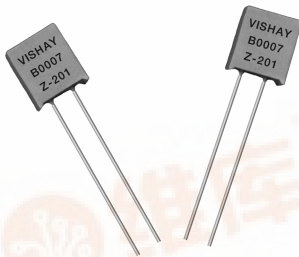


Z201

Vishay Foil Resistors



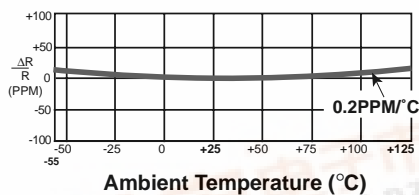
Ultra-Performance Aerospace and Instrumentation Resistor



Product may not be to scale

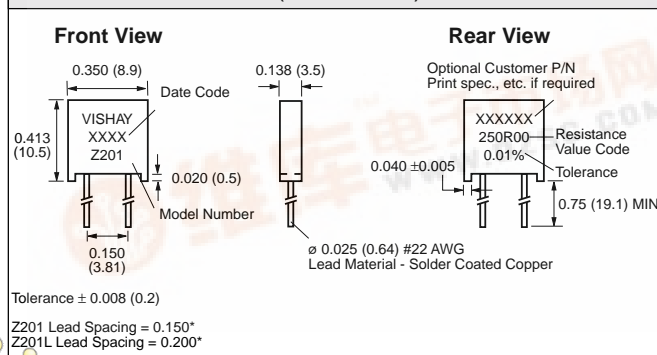
The Z201 (0.150 lead spacing) and Z201L (0.200 lead spacing) Bulk Metal® Foil resistors represent an industry breakthrough. This is the 3rd in a series of ultra-precision resistors since the first Bulk Metal® Foil resistor was introduced by Vishay in 1962. Each represents an improvement on the earlier 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.

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)



Tolerance ± 0.008 (0.2)

Z201 Lead Spacing = 0.150"

Z201L Lead Spacing = 0.200"

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

| | |
|---|---|
| *TCR | 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) |
| Stability Load Life at 2,000 Hrs | $\pm 0.005\%$ Max ΔR @ 0.1W/+ 70°C $\pm 0.015\%$ Max ΔR @ 0.3W/+ 125°C |
| Load Life at 10,000 Hrs | $\pm 0.01\%$ Max ΔR @ 0.05W/+ 125°C $\pm 0.05\%$ Max ΔR @ 0.3W/+ 125°C |
| Shelf Life Stability | $\pm 0.0025\%$ Max ΔR after 1 year $\pm 0.005\%$ Max ΔR after 3 years |
| Current Noise | 0.010μV (RMS)/Volt of applied voltage (- 40 dB) |
| High Frequency Operation Rise/Decay Time Inductance (L) Capacitance (C) | 1.0 nanosecond @ 1KΩ 0.1μH maximum; 0.08μH typical 1.0pF maximum; 0.5pF typical |
| Voltage Coefficient | < 0.1ppm/V |
| Thermal EMF | 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 ³ | 15K231 = 15,231Ω |