INTRON

authorized distributor for

VISHAY PRECISION GROUP

brings Vishay Foil Resistors to India

Patented Bulk Metal® Foil technology, first introduced in 1962, still out-performs all resistor technologies available for applications that require precision, stability, and reliability. Vishay Foil Resistors' (VFR) unique, ultra precision Bulk Metal® Foil resistors provide extremely low temperature coefficient of resistance (TCR) and exceptional long-term stability through temperature extremes. INTRON is making this technology readily available within the Indian market and will provide expert applications assistance to design engineers to help them improve the performance of their end products.

INTRON has set up an VPG authorized Precision Center in our Thane factory so that you will be able to source your requirement of the Bulk Metal® Foil Resistors locally and can be assured that you are getting genuine parts. We are proud of the unique history of Bulk Metal® Foil resistors, the quality resistive device created in our domestic factory, and the people who work here to provide you the best technical support and short lead times for both standard and custom devices.

Bulk Metal is a registered trademark of Vishay Precision Group, Inc.

Applications

Military and Aerospace

Commercial aviation

Aircraft and missile guidance systems

Medical Electronics

Automatic Test Equipment (ATE)

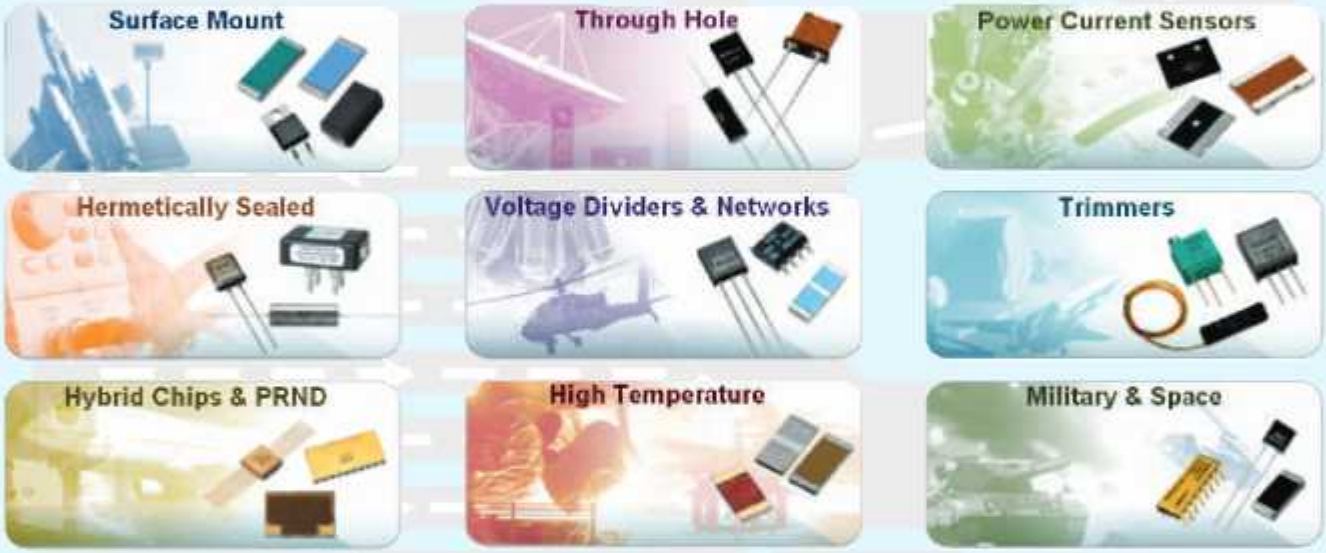
Electron Beam Applications

Measurement Systems

Current Sensing

High-precision amplifiers

Weighing Systems



Range of Foil Resistor Products

Surface-mount chips, molded resistors and networks

Power resistors and current sensors

Military established reliability

(QPL, DSCC, EEE-INST-002, ESA, CECC)

Leaded (through-hole)

Hermetically-sealed

Trimming potentiometers

Voltage dividers and networks

Hybrid chips (wire-bondable chips)

High temperature resistors (>220°C)

Resistors for audio

Key Features

Temperature coefficient of resistance (TCR) for Z-Foil technology
- ±0.05 ppm/°C typical (0°C to +60°C, +25°C ref.)
- ±0.2 ppm/°C typical (-55°C to +125°C, +25°C ref.)

Power coefficient of resistance for Z-Foil technology (Power PCR)
- "ΔR due to self heating": ±5 ppm at rated power

Load life stability: to ±0.005% (50 ppm) at +70°C, 10,000 hours at rated power

Resistance tolerance: to ± 0.001% (10 ppm)

Resistance range: 0.5 mΩ to 1.8 MΩ

Electrostatic discharge (ESD) atleast to 25 kV

Non inductive, non capacitive design

Rise time: 1 ns without ringing

Thermal stabilization time <1 sec (nominal value achieved within 10 ppm of steady state value)

Current noise: 0.010 μVRMS/volt of applied voltage (<-40 dB)

Thermal EMF: 0.05 μV/°C

Voltage coeffcient: <0.1 ppm/V

Lead (Pb) free, tin/lead and gold terminations are available

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Vishay Foil Resistors' most popular products are listed below:

Series	Product	Description	Resistance Range	Tolerance	TCR ppm/°C	Rated Power @70°C
VSMP		Improved wraparound chip resistor	5Ω to 125KΩ	±0.01% to ±1%	±0.2	0.1W to 0.75W
FRSM		High stability high temperature wraparound chip resistor	5Ω to 125KΩ	±0.01% to ±1%	±0.2	0.05W to 0.75W
VFCP		Flip chip resistor	5Ω to 125KΩ	±0.01% to ±1%	±0.2	0.1W to 0.6W
SMR1DZ & SMR3DZ		Low TCR molded chip resistor with flexible termination	5Ω to 80KΩ	±0.01% to ±1%	±0.2	0.25W to 0.6W
VCS1610Z		4-terminal Current sensing chip resistor	0.3Ω to 1Ω	±0.5% to ±1%	±0.2	0.25W
VCS1625		4-terminal Current sensing chip resistor	10mΩ to 10Ω	±0.5% to ±2%	±2	0.5W
CSM2512 & CSM3637		Metal strip chip resistor	1mΩ to 200mΩ	±0.1% to ±1%	±15	Up to 3W
S-series (C-Foil)		High Performance Instrumentation Resistors	0.5Ω to 1MΩ	±0.005% to ±1%	±2	0.4W to 2W
Z-series		High Performance molded resistor	10Ω to 600KΩ	±0.005% to ±1%	±0.2	0.6W to 2W
E102		High Ohmic Value, Small Size Resistor	150KΩ to 300KΩ	±0.005% to ±1%	±2	0.6W
VCS232Z		Power current sensing resistor	0.25Ω to 500Ω	±0.02% to ±1%	±0.2	2W
VPR220SZ		TO-220 precision power resistors (2/4-terminal)	5Ω to 10KΩ	±0.01% to ±1%	±0.2	8W on heat sink, 1.5W in free air
VCS301, VCS302		4-Terminal power current sensing resistor	5mΩ to 0.25Ω	±0.5% to ±5%	±3	10W on heat sink, 3W in free air
1242		QPL, 1/4 Inch Square, Qualified to MIL-PRF-22097, Char. F, RJ26, Multi Turn	50Ω to 5KΩ	±5% to ±10%	±10	0.25W
300190-300199 & 300210 - 300212		Molded Resistor Networks 2R, 3R, 4R Voltage Dividers, Bridge Circuits, Attenuators	1Ω to 150KΩ	±0.005% to ±1%	±2	0.5W
VHS102, VH102K and VHS555		Hermetic version of the molded S102C, S102K & S555 devices	1Ω to 150KΩ	±0.005% to ±1%	±1,±2,±5	0.6W
VSM40,42,45, 46 (8, 14, and 16 Pin Side)		Hermetic Resistor Networks in Gull Wing Configuration	5Ω to 80KΩ	±0.005%	±2	-

Not restricted to standard values; specific "as required" values can be supplied at no extra cost (e.g., 1K2345 vs. 1K)

and many more.....

When you need precision, visit

www.intronresistors.com