Ultra High Precision Z-Foil Surface Mount Current Sensing Chip Resistor

with Power Rating to 1 W and Temperature Coefficient of Resistance of ±0.05 ppm/°C and Power Coefficient of 5 ppm at Rated Power

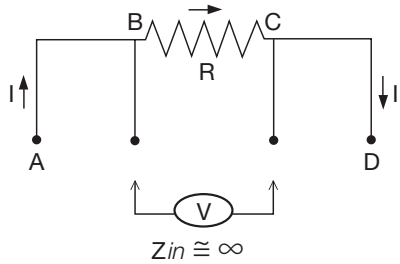
FEATURES

- ±0.05 ppm/°C typical (0°C to +60°C)
  ±0.2 ppm/°C typical (–55°C to +125°C, +25°C ref.)
- Resistance range: 0.3 Ω to 10 Ω
- Resistance Tolerance: to ±0.2%
- Power coefficient "ΔR due to self heating":
  5 ppm at rated power
- Load life stability: 0.015% at 70°C,
  2000 h at rated power
- Electrostatic discharge (ESD) up to 25 000 V
- Short time overload <0.005%



Pb-free Available

RoHS* COMPLIANT



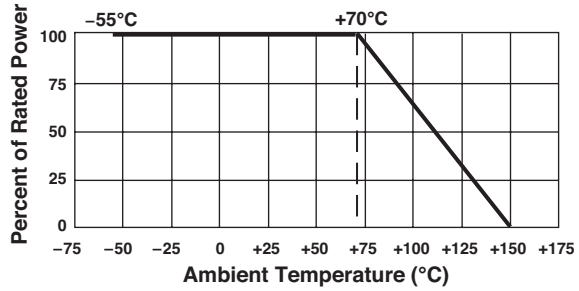
Specifications(1)

MODEL NUMBER	RESISTANCE RANGE	RESISTANCE TOLERANCE(4)	TYPICAL TCR and MAX. SPREAD (–55°C to +125°C, +25°C Ref)	POWER RATING at +70°C(2)	MAXIMUM CURRENT(2)
VCS1625ZP	>2.0 Ω to 10 Ω 0.3 Ω to 2.0 Ω	±0.2%, ±0.5%; ±1.0% ±0.5%; ±1.0%	±0.2±2.8 ppm/°C	1 W on FR4 PCB(3)	1.8 A

Notes

(1) Tighter performances are available. Please contact application engineering: foil@vpgsensors.com
(2) Whichever is lower
(3) See solder pad layout
(4) 0.05% and 0.1% are also available per special request

Power Derating Curve



Note

* This datasheet provides information about parts that are RoHS-compliant and/or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS compliant.

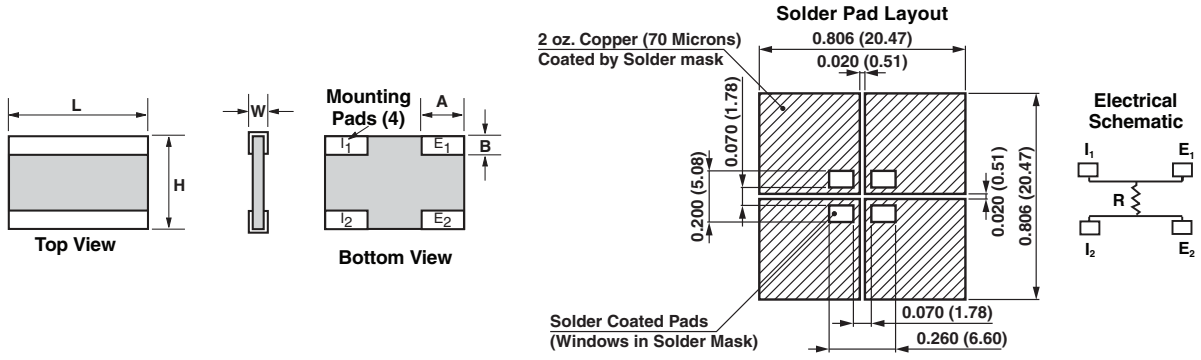
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Performance Specifications

TEST	MIL-PRF-55342 ΔR LIMITS	TYPICAL ΔR LIMITS	MAXIMUM ΔR LIMITS[1]
Thermal shock, 5 × (–65°C to +150°C)	±0.10%	±0.005% (50 ppm)	±0.01% (100 ppm)
Low temperature operation, –65°C, 45 min at P_{nom}	±0.10%	±0.005% (50 ppm)	±0.01% (100 ppm)
Short time overload, 6.25 × rated power, 5 s	±0.10%	±0.005% (50 ppm)	±0.02% (200 ppm)
High temperature exposure, +150°C, 100 h	±0.10%	±0.01% (100 ppm)	±0.02% (200 ppm)
Resistance to soldering heat	±0.2%	±0.01% (100 ppm)	±0.03% (300 ppm)
Moisture resistance	±0.2%	±0.01% (100 ppm)	±0.03% (300 ppm)
Load life stability, 2000 h at 70°C at 1 W	±0.5%	±0.015% (150 ppm)	±0.025% (250 ppm)

Note
(1) Measurement error 0.001R

Dimensions in inches (millimeters)

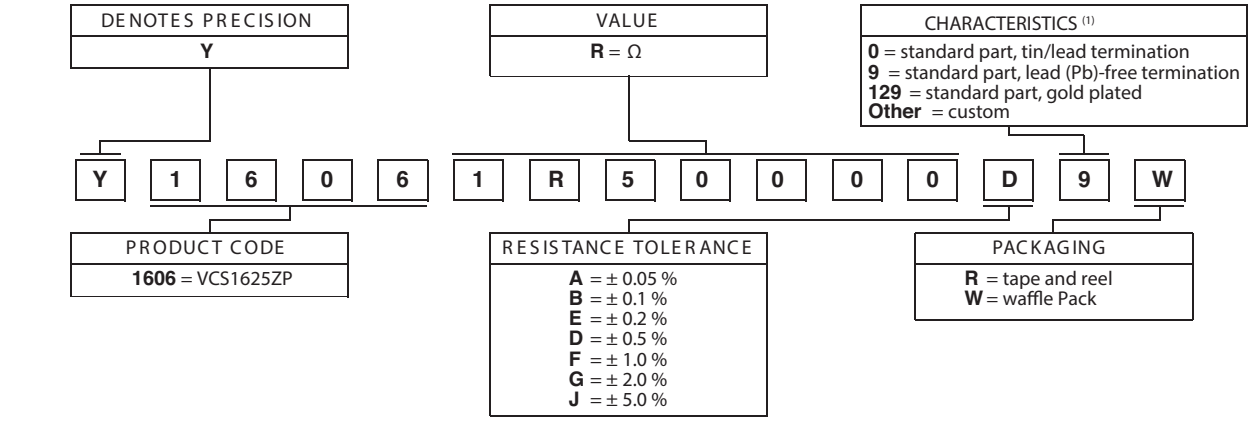


	INCHES	MILLIMETERS
L	0.250±0.010	6.35±0.25
H	0.160±0.010	4.06±0.25
W	0.040 maximum	1.02 maximum
A	0.080±0.005	2.03±0.13
B	0.040±0.010	1.02±0.25

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Global Part Number Information

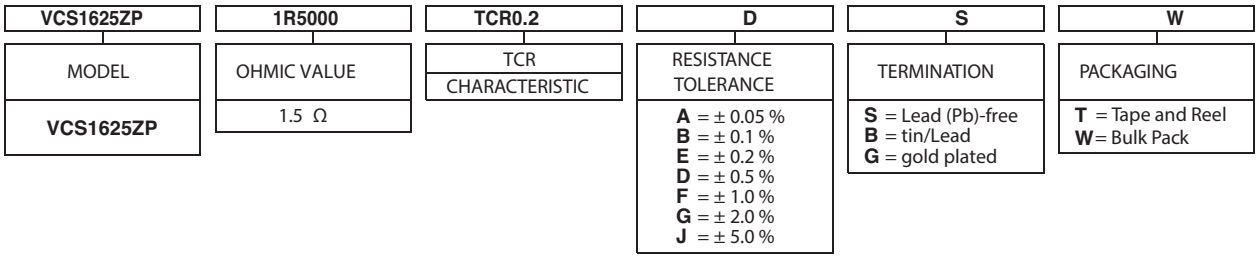
NEW GLOBAL PART NUMBER: Y16061R50000D9W (preferred part number format)



FOR EXAMPLE: ABOVE GLOBAL ORDER Y1606 1R50000 D 9 W:

TYPE: VCS1625ZP
VALUE: 1.5 Ω
ABSOLUTE TOLERANCE: ± 0.5%
TERMINATION: lead (Pb)-free
PACKAGING: waffle pack

HISTORICAL PART NUMBER: VCS1625ZP 1R5000 TCR0.2 D S W (will continue to be used)



Note

(1) For non-standard requests, please contact application engineering.

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