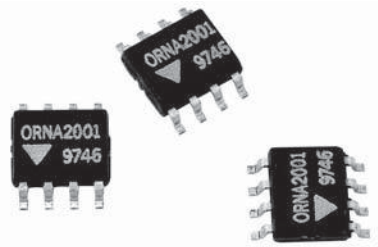
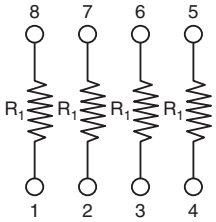
Molded, 50 mil Pitch, Dual-In-Line Thin Film Resistor, Surface Mount Network



Actual Size

ORN series resistor networks feature four isolated resistors with standard 50 mil pitch lead spacing. The networks feature close TCR tracking and tight ratio tolerance and are ideally suited for unity gain operational amplifier circuitry. The standard resistance offering listed are available for immediate delivery.

SCHEMATIC



FEATURES

- 0.068" (1.73 mm) maximum seated height
- Rugged molded case construction with no internal solder
- Low temperature coefficient (± 25 ppm/°C)
- JEDEC MS-012 STD variation AA package
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition

Pb-free Available

RoHS* COMPLIANT

HALOGEN FREE

Note

* Pb containing terminations are not RoHS compliant, exemptions may apply

TYPICAL PERFORMANCE

	ABSOLUTE	TRACKING
TCR	25	5
	ABSOLUTE	RATIO
TOL.	0.1	0.05

STANDARD RESISTANCE OFFERING (R_1 =)	
49.9 Ω	10 kΩ
100 Ω	20 kΩ
500 Ω	50 kΩ
1 kΩ	100 kΩ
2 kΩ	200 kΩ
4.99 kΩ	500 kΩ
5 kΩ	

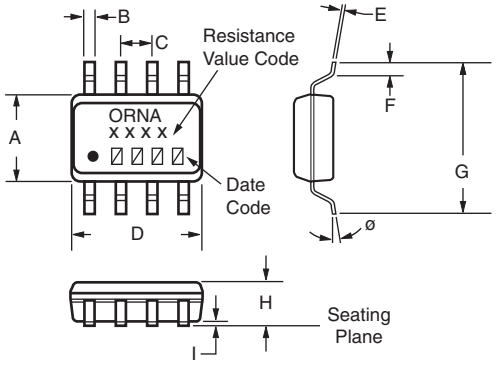
Note

- Consult factory for additional values and schematics

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Pin/Lead Number	8	-
Resistance Range	33 Ω to 500 kΩ per resistor	-
TCR: Absolute	± 25 ppm/°C	- 55 °C to + 125 °C
TCR: Tracking	± 5 ppm/°C	- 55 °C to + 125 °C
Tolerance: Absolute	± 0.05 % to ± 1.0 %	+ 25 °C
Tolerance: Ratio	± 0.01 % to ± 0.5 %	+ 25 °C
Power Rating: Resistor	100 mW	Maximum at + 70 °C
Power Rating: Package	400 mW	Maximum at + 70 °C
Stability: Absolute	Δ*R* ± 0.05 %	2000 h at + 70 °C
Stability: Ratio	Δ*R* ± 0.015 %	2000 h at + 70 °C
Voltage Coefficient	0.1 ppm/V (typical)	-
Working Voltage	100 V max. not to exceed $\sqrt{P \times R}$	-
Operating Temperature Range	- 55 °C to + 125 °C	-
Storage Temperature Range	- 55 °C to + 150 °C	-
Noise	< - 30 dB	-
Thermal EMF	0.08 µV/°C	-
Shelf Life Stability: Absolute	Δ*R* ± 0.01 %	1 year at + 25 °C
Shelf Life Stability: Ratio	Δ*R* ± 0.002 %	1 year at + 25 °C

DIMENSIONS AND IMPRINTING in inches and millimeters



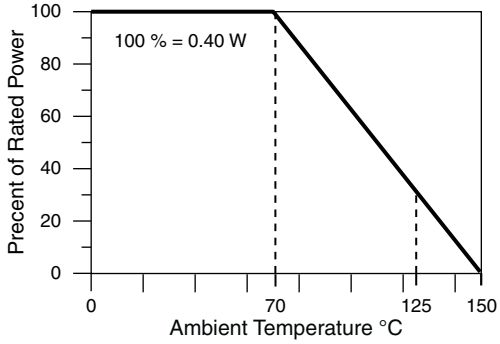
DIMENSION	INCHES	MILLIMETERS
A	0.157	3.99
B	0.0165 ± 0.0025	0.4 ± 0.06
C	0.050	1.27
D	0.195 max.	4.93
E	0.008 ± 0.001	0.20 ± 0.03
F	0.028 ± 0.001	0.71 ± 0.02
G	0.239 ± 0.005	6.07 ± 0.13
H	0.068 max.	1.73
I	0.008 ± 0.002	0.22 ± 0.06
Ø	2° to 6°	2° to 6°

Note
- Marking - Vishay symbol, part number from ordering information

MECHANICAL SPECIFICATIONS

Resistive Element	Passivated nichrome
Substrate Material	Silicon
Body	Molded epoxy
Terminals	Copper alloy
Lead (Pb)-free Option	100 % matte tin
Tin Lead Option	Sn90
Tin Lead and Lead (Pb)-free Finish	Plated

DERATING CURVE



GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: ORNA1002AUF

O	R	N	A	1	0	0	2	A	U	F
O	R	N	T	A	1	0	0	3	Z	T	S

GLOBAL MODEL (3 or 4 digits)	SCHEMATIC	RESISTANCE	TOLERANCE AND RATIO TOLERANCE	PACKAGING
ORN (Tin lead) **ORNT** (Lead (Pb)-free) (e3)	**A** = 4 isolated equal resistors	The first 3 digits are significant figures and the last digit specifies the number of zeros to follow. R designates the decimal point. Example: 1002 = 10 kΩ 1003 = 100 kΩ 4991 = 4.99 kΩ 50R0 = 50 Ω	Abs. Tol. / Ratio **A** = ± 0.1 % (3) / ± 0.05 % **B** = ± 0.1 % / ± 0.1 % **C** = ± 0.25 % / ± 0.1 % **D** = ± 0.5 % / ± 0.1 % **F** = ± 1 % / ± 0.5 % **Q** = ± 0.05 % (1) / ± 0.01 % **Z** = ± 0.1 % (1) / ± 0.025 %	TAPE AND REEL **T0** = 100 min., 100 mult **T1** = 1000 min., 1000 mult (2) **T3** = 300 min., 300 mult **T5** = 500 min., 500 mult **TF** = Full reel 3000 **TS** = 100 min., 1 mult **UF** = TUBED

Historical Part Number example: ORNA1001F (for reference purposes only)

ORN	A	1001	F
SERIES	SCHEMATIC	RESISTANCE	TOLERANCE AND RATIO TOLERANCE

Notes
(1) Tol. available 1K and up
(2) Preferred packaging code
(3) Ratio tolerance available 250 Ω and up

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