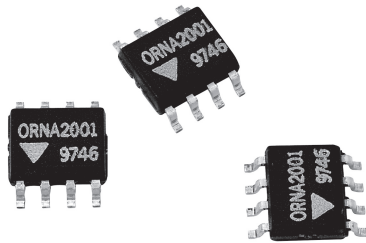
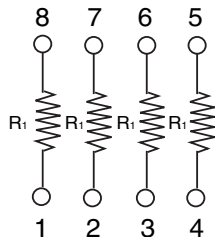


## Molded, 50 Mil Pitch, Dual-In-Line Resistor Network


**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

- Lead (Pb)-free available
- 0.068" (1.73 mm) maximum seated height
- Rugged molded case construction with no internal solder
- Thin film passivity Microbe element
- Low temperature coefficient ( $\pm 25$  ppm/ $^{\circ}$ C)
- JEDEC MS-012 STD Package


**RoHS\***  
COMPLIANT

### TYPICAL PERFORMANCE

	ABS	TRACKING
TCR	25	5
	ABS	RATIO
TOL	0.1	0.05

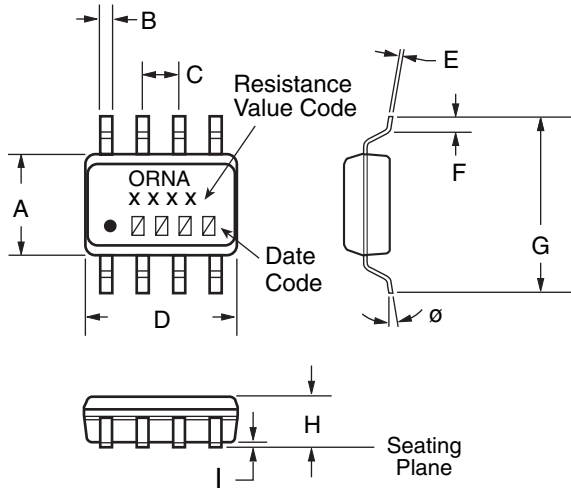
STANDARD RESISTANCE OFFERING ( $R_1 =$ )	
500 $\Omega$	10 k $\Omega$
1 k $\Omega$	20 k $\Omega$
2 k $\Omega$	50 k $\Omega$
4.99 k $\Omega$	100 k $\Omega$
5 k $\Omega$	

Consult factory for additional values

STANDARD ELECTRICAL SPECIFICATIONS		
TEST	SPECIFICATIONS	CONDITIONS
<b>Material</b>	Passivated Nichrome	
<b>TCR:</b>	<b>Tracking</b>	$\pm 5$ ppm/ $^{\circ}$ C
	<b>Absolute</b>	$\pm 25$ ppm/ $^{\circ}$ C
<b>Tolerance:</b>	<b>Ratio</b>	$\pm 0.5\%$ to $\pm 0.01\%$
	<b>Absolute</b>	$\pm 1.0\%$ to $\pm 0.05\%$
<b>Power Rating:</b>	<b>Resistor</b>	100 mW
	<b>Package</b>	400 mW
<b>Stability:</b>	<b><math>\Delta R</math> Absolute</b>	500 ppm
	<b><math>\Delta R</math> Ratio</b>	150 ppm
<b>Voltage Coefficient</b>	0.1 ppm/V typical	
<b>Working Voltage</b>	50 V	
<b>Operating Temperature Range</b>	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C	
<b>Storage Temperature Range</b>	- 55 $^{\circ}$ C to + 150 $^{\circ}$ C	
<b>Noise</b>	< - 30 dB	
<b>Thermal EMF</b>	0.08 $\mu$ V/ $^{\circ}$ C	
<b>Shelf Life Stability:</b>	<b>Absolute</b>	100 ppm
	<b>Ratio</b>	20 ppm
		1 year at + 25 $^{\circ}$ C
		1 year at + 25 $^{\circ}$ C

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

**DIMENSIONS AND IMPRINTING** in inches and millimeters



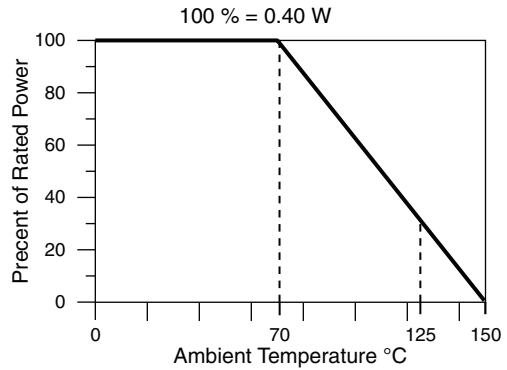
DIMENSION	INCHES	MM
A	0.157	3.99
B	0.0165 ± 0.0025	0.4 ± 0.06
C	0.050	1.27
D	0.195 Max.	4.93
E	0.008 ± 0.001	0.20 ± 0.03
F	0.028 ± 0.001	0.71 ± 0.02
G	0.239 ± 0.005	6.07 ± 0.13
H	0.068 Max.	1.73
I	0.008 ± 0.002	0.22 ± 0.06
Ø	2° to 6°	

**Notes**

1. Leads are within 0.005" (0.13 mm) of true position
2. Leads coplanar to ± 0.004" (± 0.50 mm)
3. Marking - VISHAY Symbol, Part Number from Ordering Information

MECHANICAL SPECIFICATIONS	
Resistive Element	Passivated Nichrome
Body	Molded epoxy
Terminals	Copper Alloy, solderable
Solderability	Per MIL-PRF-83401
Marking Resistance to Solvents	Permanency testing per MIL-PRF-83401
Lead (Pb)-free Option	100 % Sn Matte
Lead (Pb)-free Finish	Plated

**DERATING CURVE**



**GLOBAL PART NUMBER INFORMATION**

New Global Part Numbering: ORNA1002AUF (preferred part number format)

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																
<b>ORN</b> (Tin Lead)  <b>ORNT</b> (Lead (Pb)-free) (e3)	<b>A</b> = 4 isolated equal resistors	The first 3 digits are significant figures and the last digit specifies the number of zeros to follow.  Example: 1002 = 10K 1003 = 100K 4991 = 4.99K	<table border="1"> <thead> <tr> <th>Abs. Tol.</th> <th>Ratio</th> </tr> </thead> <tbody> <tr> <td><b>A</b> = ± 0.1 %</td> <td>± 0.05 %</td> </tr> <tr> <td><b>B</b> = ± 0.1 %</td> <td>± 0.1 %</td> </tr> <tr> <td><b>C</b> = ± 0.25 %</td> <td>± 0.1 %</td> </tr> <tr> <td><b>D</b> = ± 0.5 %</td> <td>± 0.1 %</td> </tr> <tr> <td><b>F</b> = ± 1 %</td> <td>± 0.5 %</td> </tr> <tr> <td>*<b>Q</b> = ± 0.05 %</td> <td>± 0.01 %</td> </tr> <tr> <td>*<b>Z</b> = ± 0.1 %</td> <td>± 0.025 %</td> </tr> </tbody> </table> * Tol. available 1K and up	Abs. Tol.	Ratio	<b>A</b> = ± 0.1 %	± 0.05 %	<b>B</b> = ± 0.1 %	± 0.1 %	<b>C</b> = ± 0.25 %	± 0.1 %	<b>D</b> = ± 0.5 %	± 0.1 %	<b>F</b> = ± 1 %	± 0.5 %	* <b>Q</b> = ± 0.05 %	± 0.01 %	* <b>Z</b> = ± 0.1 %	± 0.025 %	<b>TAPE AND REEL</b> <b>T0</b> = 100 Min 100 Mult <b>T1</b> = 1000 Min 1000 Mult <b>T3</b> = 300 Min 300 Mult <b>T5</b> = 500 Min 500 Mult <b>TF</b> = Full Reel 3000 <b>TS</b> = 100 Min 1 Mult  <b>UF</b> = TUBED
Abs. Tol.	Ratio																			
<b>A</b> = ± 0.1 %	± 0.05 %																			
<b>B</b> = ± 0.1 %	± 0.1 %																			
<b>C</b> = ± 0.25 %	± 0.1 %																			
<b>D</b> = ± 0.5 %	± 0.1 %																			
<b>F</b> = ± 1 %	± 0.5 %																			
* <b>Q</b> = ± 0.05 %	± 0.01 %																			
* <b>Z</b> = ± 0.1 %	± 0.025 %																			

Historical Part Number example: ORNA1001F (will continue to be accepted)

ORN	A	1001	F
SERIES	SCHEMATIC	RESISTANCE	TOLERANCE AND RATIO TOLERANCE



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