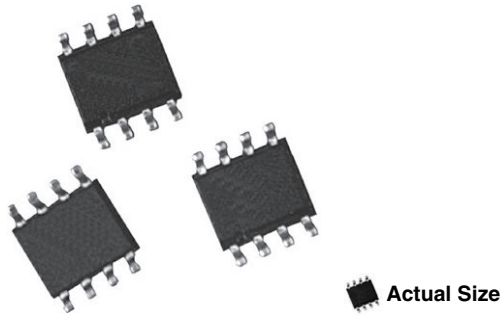
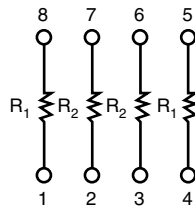


## Molded, 50 mil Pitch, Dual-In-Line Thin Film Divider, Surface Mount Resistor Network



Vishay Dale Thin Film ORN series Dividers provide optimum ratio precision, small size and exceptional stability for most applications. They offer a wide ratio range that is listed in the selection guide and are available for immediate delivery. The tight ratio tolerance offered on the standard ratios will provide exceptional performance throughout life.

### SCHEMATIC



### FEATURES

- 0.068" (1.73 mm) maximum seated height
- Rugged molded case construction with no internal solder (JEDEC® MS-012 variation AA package)
- Low TCR tracking  $\pm 5$  ppm/°C
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS\***  
Available  
**HALOGEN FREE**

### 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. Please see the information / tables in this datasheet for details

### TYPICAL PERFORMANCE

	ABSOLUTE	TRACKING
TCR	25	5
	ABSOLUTE	RATIO
TOL.	0.1	0.05

### STANDARD RESISTANCE OFFERING (R<sub>1</sub>/R<sub>2</sub>)

RATIO	R <sub>1</sub>	R <sub>2</sub>
100:1	100K	1K
50:1	50K	1K
25:1	25K	1K
20:1	20K	1K
10:1	10K	1K
5:1	10K	2K
2:1	10K	5K

### STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Pin/Lead Number	8	-
Resistance Range	1000 $\Omega$ to 100 k $\Omega$ per resistor	-
TCR: Absolute	$\pm 25$ ppm/°C	-55 °C to +125 °C
TCR: Tracking	$\pm 5$ ppm/°C	-55 °C to +125 °C
Tolerance: Absolute	$\pm 0.1$ %	+25 °C
Tolerance: Ratio	$\pm 0.05$ %	+25 °C
Power Rating: Resistor	100 mW	Maximum at +70 °C
Power Rating: Package	400 mW	Maximum at +70 °C
Stability: Absolute	$\Delta R \pm 0.05$ %	2000 h at +70 °C
Stability: Ratio	$\Delta R \pm 0.015$ %	2000 h at +70 °C
Voltage Coefficient	< 0.1 ppm/V	-
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 $\mu$ V/°C	-
Shelf Life Stability: Absolute	$\Delta R \pm 0.01$ %	1 year at +25 °C
Shelf Life Stability: Ratio	$\Delta R \pm 0.002$ %	1 year at +25 °C

### Note

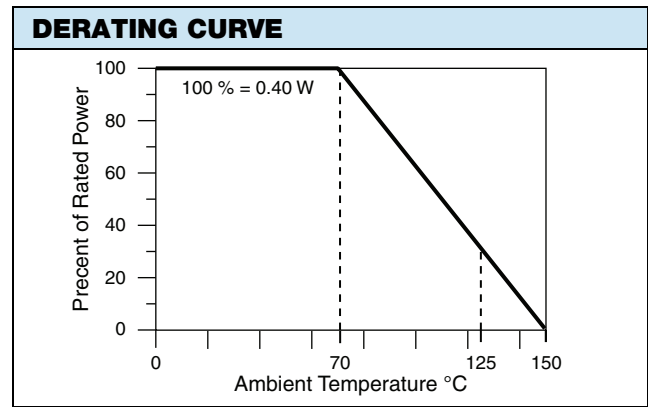
- Tantalum nitride film is custom, consult factory

DIMENSIONS AND IMPRINTING in inches and millimeters			
	DIMENSION	INCHES	MILLIMETERS
	A	0.154 ± 0.003	3.90 ± 0.09
	B	0.016 ± 0.002	0.4 ± 0.06
	C	0.050	1.27
	D	0.193 ± 0.004	4.90 ± 0.1
	E	0.008 ± 0.001	0.20 ± 0.03
	F	0.032 ± 0.016	0.81 ± 0.4
	G	0.236 ± 0.008	6.00 ± 0.2
	H	0.068 max.	1.73
	I	0.007 ± 0.003	0.18 ± 0.07
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



### GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: ORNA5-1UF

O	R	N	A	5	-	1	U	F			
O	R	N	T	A	1	0	0	-	1	U	F

GLOBAL MODEL (4 or 5 digits)

**ORNA**  
(Tin/lead)

**ORNTA**  
(Lead (Pb)-free)  
(e3)

RESISTANCE (3, 4 or 5 digits)

2-1  
5-1  
10-1  
20-1  
25-1  
50-1  
100-1

PACKAGING

TAPE AND REEL

**T0** = 100 min., 100 mult.  
**T1** = 1000 min., 1000 mult.  
**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: ORNA2-1 (for reference purposes only)

ORNA2-1	2:1	10K	5K	2
PART NUMBER	DIVIDER NETWORK	R <sub>1</sub> VALUE	R <sub>2</sub> VALUE	R <sub>1</sub> /R <sub>2</sub> RATIO



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