

Excellent Integrated System Limited

Stocking Distributor

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[Vishay Thin Film](#)
[ORNTA2-1T1](#)

For any questions, you can email us directly:

sales@integrated-circuit.com

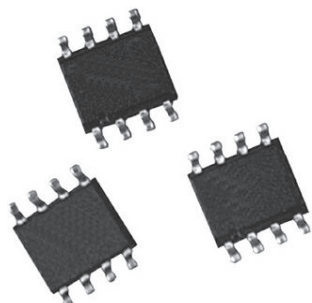


www.vishay.com

ORN (Divider)

Vishay Dale Thin Film

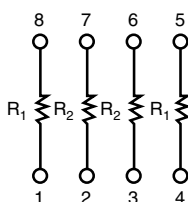
Molded, 50 mil Pitch, Dual-In-Line Thin Film Divider, Surface Mount Resistor Network



Actual Size

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 ± 5 ppm/ $^{\circ}$ C
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition



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/R_2)

RATIO	R_1	R_2
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 Ω to 100 k Ω per resistor	-
TCR: Absolute	± 25 ppm/ $^{\circ}$ C	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C
TCR: Tracking	± 5 ppm/ $^{\circ}$ C	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C
Tolerance: Absolute	± 0.1 %	+ 25 $^{\circ}$ C
Tolerance: Ratio	± 0.05 %	+ 25 $^{\circ}$ C
Power Rating: Resistor	100 mW	Maximum at + 70 $^{\circ}$ C
Power Rating: Package	400 mW	Maximum at + 70 $^{\circ}$ C
Stability: Absolute	$\Delta R \pm 0.05$ %	2000 h at + 70 $^{\circ}$ C
Stability: Ratio	$\Delta R \pm 0.015$ %	2000 h at + 70 $^{\circ}$ C
Voltage Coefficient	< 0.1 ppm/V	-
Working Voltage	100 V max. not to exceed $\sqrt{P \times R}$	-
Operating Temperature Range	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C	-
Storage Temperature Range	- 55 $^{\circ}$ C to + 150 $^{\circ}$ C	-
Noise	< - 30 dB	-
Thermal EMF	0.08 μ V/ $^{\circ}$ C	-
Shelf Life Stability: Absolute	$\Delta R \pm 0.01$ %	1 year at + 25 $^{\circ}$ C
Shelf Life Stability: Ratio	$\Delta R \pm 0.002$ %	1 year at + 25 $^{\circ}$ C

Note

- Tantalum nitride film is custom, consult factory



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ORN (Divider)

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DIMENSIONS AND IMPRINTING in inches and millimeters

Top view and side view of the ORNA x-x connector. The top view shows a rectangular component with four pins on each side. Dimensions A, B, C, D, and E are labeled. The side view shows the component's profile with dimensions F, G, and H. The top view also includes labels for 'Part Number' and 'Date Code'.

Bottom view and side view of the ORNA x-x connector. The bottom view shows the component from below with dimensions I and J. The side view shows the component's profile with dimensions K and L. The bottom view also includes labels for 'Part Number' and 'Date Code'.

DIMENSION	INCHES	MILLIMETERS
A	0.157	3.99
B	0.0165 ± 0.005	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°

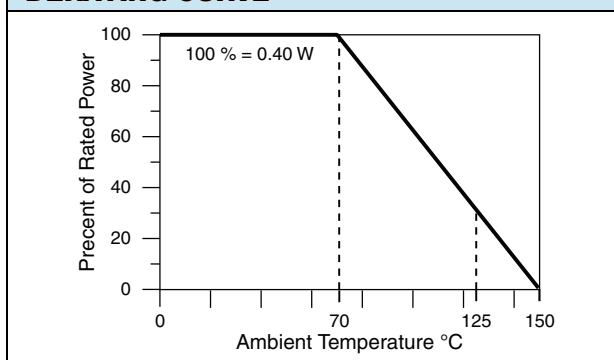
Note

- 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: ORNA5-1UF

GLOBAL MODEL (4 or 5 digits)	RESISTANCE (3, 4 or 5 digits)	PACKAGING
ORNA (Tin/lead)	2-1 5-1 10-1 20-1 25-1 50-1 100-1	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 ₁ VALUE	R ₂ VALUE	R ₁ /R ₂ RATIO



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