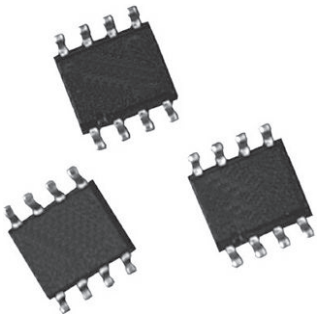
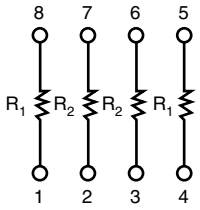
Molded, 50 mil Pitch, Dual-In-Line Thin Film Divider, Surface Mount Resistor Network



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/°C
- 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/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 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	± 0.1 %	+ 25 °C
Tolerance: Ratio	± 0.05 %	+ 25 °C
Power Rating: Resistor	100 mW	Maximum at + 70 °C
Power Rating: Package	400 mW	Maximum at + 70 °C
Stability: Absolute	ΔR ± 0.05 %	2000 h at + 70 °C
Stability: Ratio	ΔR ± 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 µV/°C	-
Shelf Life Stability: Absolute	ΔR ± 0.01 %	1 year at + 25 °C
Shelf Life Stability: Ratio	ΔR ± 0.002 %	1 year at + 25 °C

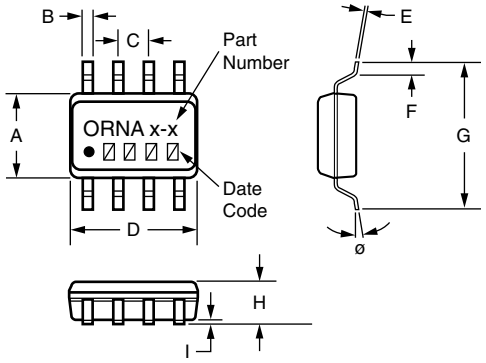
Note

- Tantalum nitride film is custom, consult factory

For technical questions, contact: thinfilm@vishay.com

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DIMENSIONS AND IMPRINTING in inches and millimeters



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°

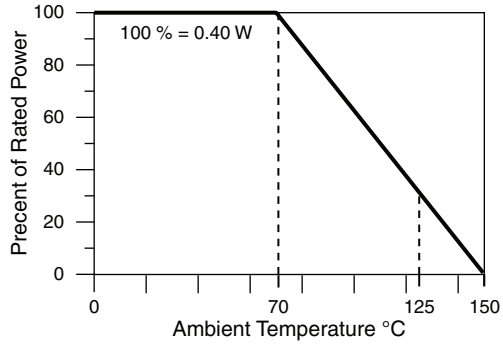
Note

- 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

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)	RESISTANCE (3, 4 or 5 digits)	PACKAGING
ORNA (Tin/lead) **ORNTA** (Lead (Pb)-free) (e3)	**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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Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.