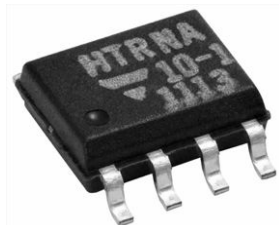
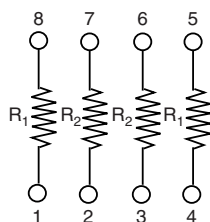


## Molded, 50 mil Pitch, High Temperature (215 °C); Thin Film Surface Mount, Dual-In-Line Resistor Network



HTRN series resistor networks feature four isolated resistors with standard 50 mil pitch lead spacing. HTRN is ideal to be used in oil/gas exploration industry, automotive under the hood applications, and aerospace engine control high temperature applications. 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

- Ratio tolerance to  $\pm 0.05\%$
- Ratio stability  $\pm 0.1\%$
- - 55 °C to 215 °C operating temperature range
- 0.068" (1.73 mm) maximum seated height
- Rugged molded case construction with no internal solder
- Low temperature coefficient ( $\pm 25$  ppm/°C)
- JEDEC MS-012 STD variation AA package
- Gold terminations for durable attach bonds
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### 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>)

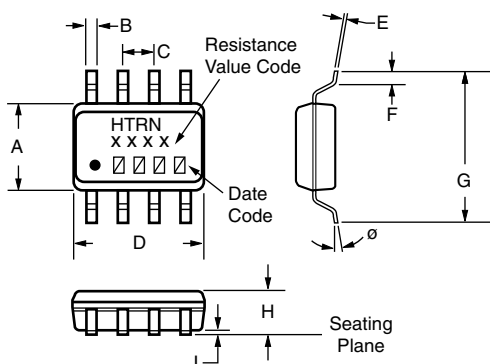
RATIO	R <sub>1</sub>	R <sub>2</sub>
100:1	100K	1K
50:1	50K	1K
25:1	25K	1K
20:1	20K	1K
10:1	10K	1K
5:1	10K	2K
2:1	10K	5K
4:1	4K	1K

#### Note

- Consult factory for additional values and schematics

### 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	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	$\Delta R \pm 0.5\%$	2000 h at + 215 °C at 25 % rated power
Stability: Ratio	$\Delta R \pm 0.1\%$	2000 h at + 215 °C at 25 % rated power
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 + 215 °C	-
Storage Temperature Range	- 55 °C to + 215 °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

**DIMENSIONS AND IMPRINTING** in inches and millimeters


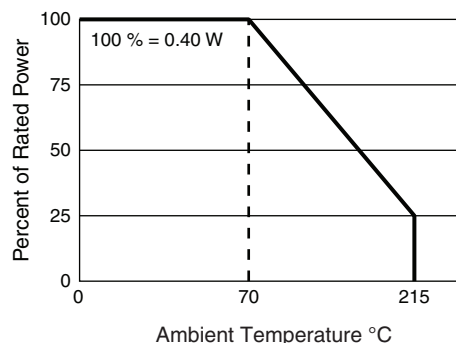
DIMENSION	INCHES	MILLIMETERS
A	0.157	3.99
B	0.0165 ± 0.0025	0.4 ± 0.06
C	0.050	1.27
D	0.195 max.	4.93
E	0.008 ± 0.001	0.20 ± 0.03
F	0.028 ± 0.001	0.71 ± 0.02
G	0.239 ± 0.005	6.07 ± 0.13
H	0.068 max.	1.73
I	0.008 ± 0.002	0.22 ± 0.06
Ø	2° to 6°	2° to 6°

**Note**

- Marking - Vishay symbol, part number from ordering information

**MECHANICAL SPECIFICATIONS**

Resistive Element	Passivated nichrome
Substrate Material	Silicon
Body	Molded epoxy
Terminals	Copper
Termination Finish	Plated Ni/Pd/Au

**DERATING CURVE**

**GLOBAL PART NUMBER INFORMATION**

New Global Part Numbering: HTRN5-1UF

H	T	R	N	5	-	1	U	F
---	---	---	---	---	---	---	---	---

GLOBAL MODEL (4 digits)
<b>HTRN</b>

RESISTANCE (3, 4 or 5 digits)
2-1
4-1
5-1
10-1
20-1
25-1
50-1
100-1

PACKAGING
TAPE AND REEL
<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



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**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.**



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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Экспресс доставка в любую точку России;
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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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