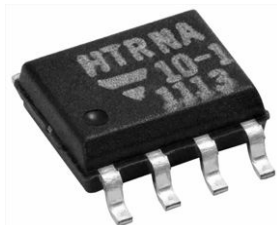
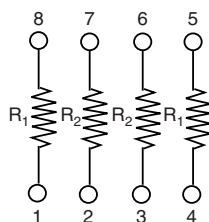


Molded, 50 mil Pitch, High Temperature (215 °C); Thin Film Surface Mount, Dual-In-Line Resistor Network



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 (± 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 (R₁/R₂)

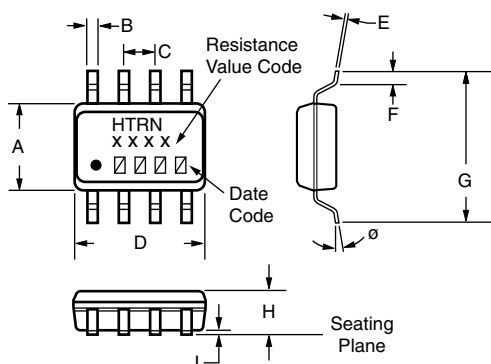
RATIO	R ₁	R ₂
100:1	100K	1K
50:1	50K	1K
25:1	25K	1K
20:1	20K	1K
10:1	10K	1K
5:1	10K	2K
2:1	10K	5K
4:1	4K	1K

Note

- Consult factory for additional values and schematics

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Pin/Lead Number	8	-
Resistance Range	1000 Ω to 100 k Ω 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	$\Delta R \pm 0.5\%$	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 μ 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


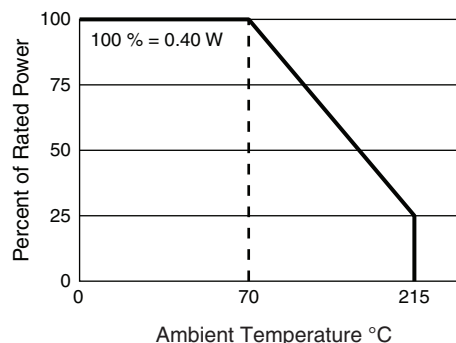
DIMENSION	INCHES	MILLIMETERS
A	0.157	3.99
B	0.0165 ± 0.0025	0.4 ± 0.06
C	0.050	1.27
D	0.195 max.	4.93
E	0.008 ± 0.001	0.20 ± 0.03
F	0.028 ± 0.001	0.71 ± 0.02
G	0.239 ± 0.005	6.07 ± 0.13
H	0.068 max.	1.73
I	0.008 ± 0.002	0.22 ± 0.06
Ø	2° to 6°	2° to 6°

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)
HTRN

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
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



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Vishay:](#)

[HTRN100-1T5](#) [HTRN10-1T5](#) [HTRN20-1T5](#) [HTRN2-1T5](#) [HTRN25-1T5](#) [HTRN4-1T5](#) [HTRN50-1T5](#) [HTRN5-1T5](#)