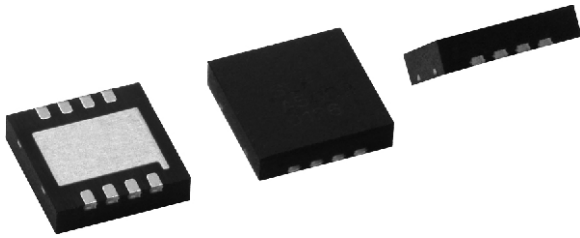
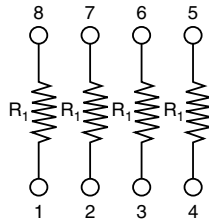


Dual Flat No Lead Molded Precision Thin Film Resistor Surface Mount Network



The DFN series of precision surface mount resistor networks feature isolated thin film precision resistors mounted in a 0.8 mm pitch 4 mm x 4 mm dual flat no lead package. The networks feature 50 % savings in board space over traditional SOIC packages. They are ideally suited for applications of unity gain operational amplifiers that require close TC tracking and tight ratio tolerances over temperature. Custom configurations are available upon request.

SCHEMATIC



FEATURES

- 0.8 mm lead pitch
- MSL level 1 per J-STD-020
- Low profile 1 mm seated height
- Small size 4 mm x 4 mm size 50 % board savings over SOIC packages
- Wide resistance range 100 Ω to 100 k Ω available
- Custom configurations available
- Low TCR ± 25 ppm, TCR tracking to ± 3 ppm
- Ratio tolerances to ± 0.025 %
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


**RoHS
COMPLIANT**

TYPICAL PERFORMANCE

	ABSOLUTE	TRACKING
TCR	25	3
	ABSOLUTE	RATIO
TOL.	0.1	0.05

STANDARD RESISTANCE OFFERING ($R_1 =$)

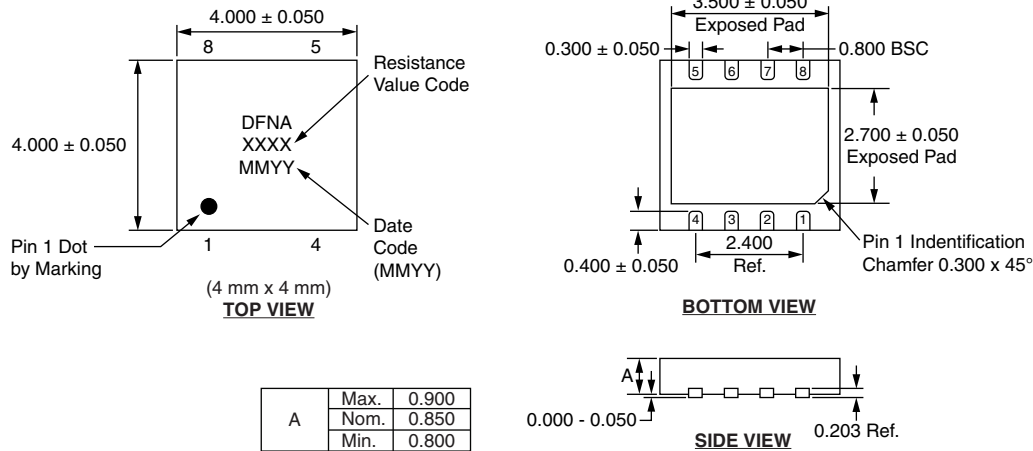
500 Ω	10 k Ω
1 k Ω	20 k Ω
2 k Ω	50 k Ω
4.99 k Ω	100 k Ω
5 k Ω	

Note

- Consult factory for additional R values and schematics

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Pin/Lead Number	8	-
Resistance Range	100 Ω to 100 k Ω per resistor	-
TCR: Absolute	± 25 ppm/ $^{\circ}$ C	-55 $^{\circ}$ C to +125 $^{\circ}$ C
TCR: Tracking	± 3 ppm/ $^{\circ}$ C	-55 $^{\circ}$ C to +125 $^{\circ}$ C
Tolerance: Absolute	± 0.05 % to ± 1.0 %	+25 $^{\circ}$ C
Tolerance: Ratio	± 0.025 % to ± 0.5 %	+25 $^{\circ}$ C
Power Rating: Resistor	100 mW	Maximum at +70 $^{\circ}$ C
Power Rating: Package	100 mW x number of resistors	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

DIMENSIONS AND IMPRINTING in millimeters

Note

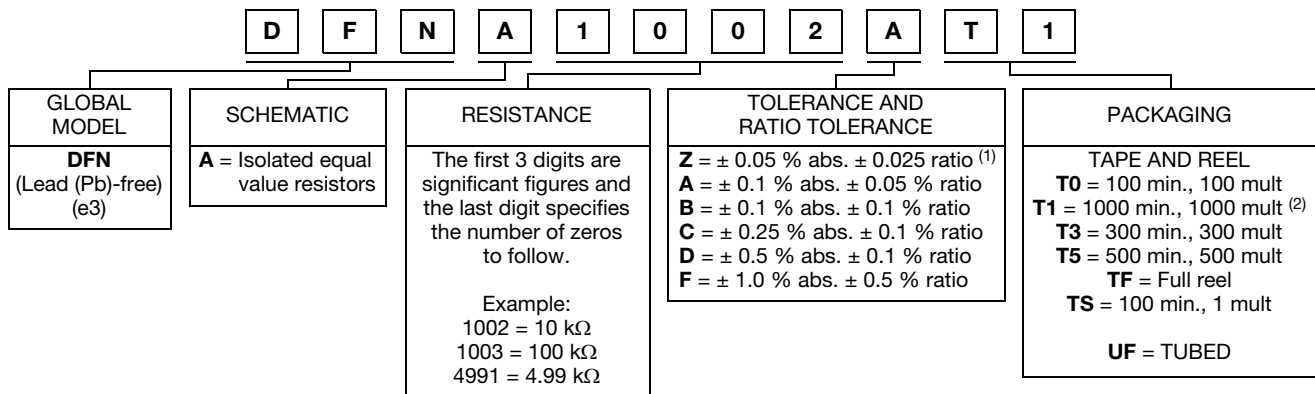
- Contact factory for package outlines for higher pin count or custom configurations

MECHANICAL SPECIFICATIONS

Resistive Element	Passivated nichrome
Substrate Material	Ceramic
Body	Molded epoxy
Terminals	Copper alloy
Plating	100 % matte tin
Marking Resistance to Solvents	Per MIL-PRF-914

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: DFNA1002AT1


Notes

- ⁽¹⁾ Tolerance available on 1 kΩ and up
⁽²⁾ Preferred packaging code



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.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

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.