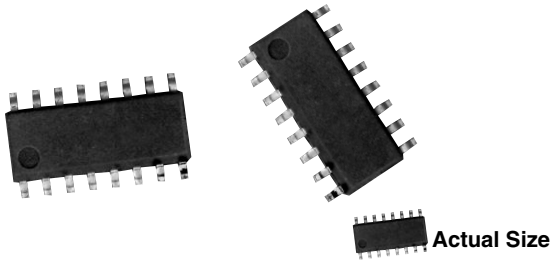
Molded, 50 mil Pitch, Dual-In-Line Thin Film Resistor, Narrow Body, Surface Mount Network



Actual Size

The NOMC series features a standard 14 pins and 16 pins narrow body (0.150") small outline surface mount style. It can accommodate resistor networks to your particular application requirements. The networks can be constructed with passivated nichrome (standard), or tantalum nitride [1] resistor films to optimize performance.

Note

[1] Available upon request. Resistance value range and performance differs from passivated nichrome standard electrical specifications on datasheet, consult factory.

FEATURES

- Standard 14 pins and 16 pins counts (0.150" narrow body) JEDEC MS-012 variation AB and AC
- Rugged molded case construction
- Excellent long term ratio stability (ΔR ± 0.015 %)
- Low TCR tracking ± 5 ppm/°C
- Isolated and bussed schematics
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

RoHS* Available

HALOGEN FREE

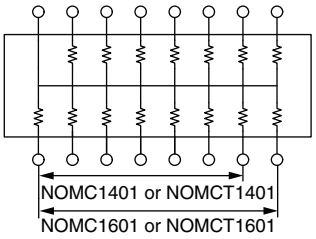
Note

* This datasheet provides information about parts that are RoHS-compliant and/or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information/tables in this datasheet for details.

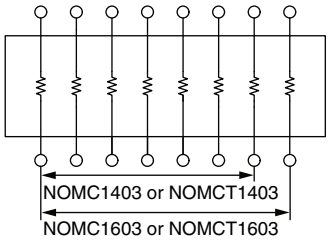
TYPICAL PERFORMANCE

	ABSOLUTE	TRACKING
TCR	25	5
	ABSOLUTE	RATIO
TOL.	0.10	0.05

SCHEMATICS



The 01 circuit provides a choice of 13 or 15 equal value resistors each connected between a common lead (14 or 16). Custom schematics available.



The 03 circuit provides a choice of 7 or 8 equal value resistors each connected between a common lead (14 or 16). Custom schematics available.

STANDARD RESISTANCE OFFERING (Equal Value Resistors)	
ISOLATED (03) SCHEMATIC	**BUSSED (01) SCHEMATIC**
1 kΩ	1 kΩ
2 kΩ	5 kΩ
5 kΩ	10 kΩ
10 kΩ	20 kΩ
20 kΩ	
25 kΩ	
50 kΩ	
100 kΩ	

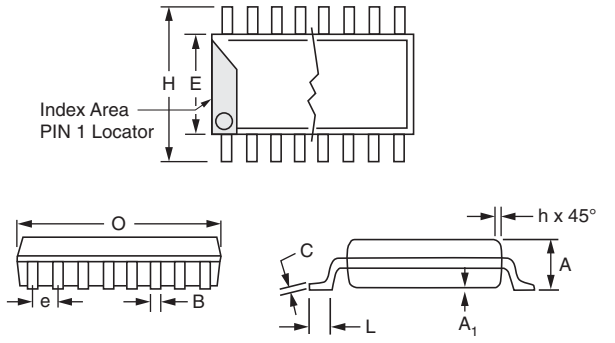
Note

- Consult factory for additional values

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome (standard) Tantalum nitride (available upon request)	-
Pin/Lead Number	14, 16	-
Resistance Range	100 Ω to 50 kΩ each resistor (bussed (01) schematic) 100 Ω to 100 kΩ each resistor (isolated (03) schematic)	- -
TCR: Absolute	± 25 ppm/°C (standard)	- 55 °C to + 125 °C
TCR: Tracking	± 5 ppm/°C (typical)	- 55 °C to + 125 °C
Tolerance: Absolute	± 0.10 % to ± 1 %	+ 25 °C
Tolerance: Ratio	± 0.025 % to ± 0.1 %	+ 25 °C
Power Rating: Resistor	100 mW ((typical) (03) schematic) 50 mW ((01) schematic)	Maximum at + 70 °C
Power Rating: Package	400 mW/500 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

DIMENSIONS AND IMPRINTING in inches and millimeters



DIMENSION	14		16	
	INCHES	MILLIMETERS	INCHES	MILLIMETERS
H	0.235	5.969	0.235	5.969
E	0.154	3.911	0.154	3.91
O	0.340	8.363	0.390	9.906
A	0.063	1.60	0.063	1.60
e	0.050	1.270	0.050	1.270
B	0.015	0.381	0.015	0.381
C	0.008	0.203	0.008	0.203
L	0.025	0.635	0.025	0.635
A1	0.006	0.152	0.006	0.152
h	0.015	0.381	0.015	0.381

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

Note

- Available upon request. Resistance value range and performance differs from passivated nichrome standard electrical specifications on datasheet, consult factory.

ORDERING INFORMATION CHECK LIST (Customs)

Special requirements should be identified in advance, but as a minimum, you should have the following information ready.

ELECTRICAL	MECHANICAL
1. Resistors, by value and tolerance 2. Reference resistor(s) and matching of which resistors to which reference resistors 3. Reference by ratio 4. Absolute temperature coefficient of resistivity 5. Temperature tracking of subordinate resistors to reference resistor(s) 6. Maximum operating voltage 7. Resistor power ratings 8. Operating temperature range	1. Maximum allowable seated height (from PC board to top of network) 2. Special marking concerns 3. Schematic pin out of package

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: NOMC16031002BUF

N	O	M	C	1	6	0	3	1	0	0	2	B	U	F
N	O	M	C	T	1	4	0	3	1	0	0	3	Z	T	1

GLOBAL MODEL (4 or 5 digits)	PINS	SCHEMATIC	RESISTANCE	TOLERANCE AND RATIO TOLERANCE	PACKAGING
NOMC (Tin Lead) **NOMCT** (Lead (Pb)-free) (e3)	**14** **16**	**01** = 13 or 15 bussed equal value resistors **03** = 7 or 8 isolated equal value resistors	First 3 digits are significant figures and the last digit specifies the number of zeros to follow. Example: 1002 = 10K 1003 = 100K	Abs. Tol. / Ratio **A** = 0.1 % (1) / 0.05 % **B** = 0.1 % / 0.1 % **C** = 0.25 % / 0.1 % **D** = 0.5 % / 0.1 % **F** = 1 % / 0.5 % **Z** = 0.1 % (1) / 0.025 %	TAPE AND REEL **T0** = 100 min., 100 mult **T1** = 1000 min., 1000 mult (2) **T3** = 300 min., 300 mult **T5** = 500 min., 500 mult **TF** = Full reel 2500 **TS** = 100 min., 1 mult **UF** = TUBED

Historical Part Number example: NOMC16031002Z (for reference purposes only)

NOMC	16	03	1002	Z
SERIES	PINS	SCHEMATIC	RESISTANCE	TOLERANCE AND RATIO TOLERANCE

Notes

(1) Tolerance available 1K 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.

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.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

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.