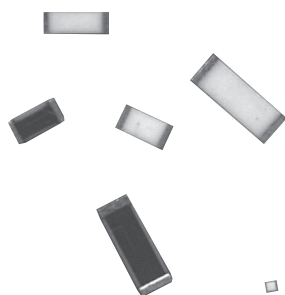


Vishay Thin Film Low Value Surface Mount Chip Resistor



Actual Size
0805

FEATURES

- Metal glaze resistor
- Low inductance for high-frequency applications
- Alumina substrates for high power handling capability (2 W maximum power rating)
- Pre-soldered terminations
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS*
Available

**HALOGEN
FREE**
Available

LINKS TO ADDITIONAL RESOURCES



Product Page



Packages



Footprints

The L-NS series resistors are low resistance, high power handling surface mount chip resistors. They are available in either lead bearing or lead (Pb)-free terminations.

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

VALUE AND MINIMUM TOLERANCE

VALUE (Ω)	BEST TOLERANCE
< 0.1	$\pm 20 \%$
0.1	$\pm 2.0 \%$
0.25	$\pm 1.0 \%$
0.5	$\pm 1.0 \%$
1.0	$\pm 1.0 \%$
2.0	$\pm 1.0 \%$
10.0	$\pm 1.0 \%$

STANDARD ELECTRICAL SPECIFICATIONS

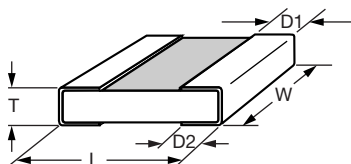
TEST	SPECIFICATIONS	CONDITIONS
Material	Metal glaze	-
Resistance Range	0.03 Ω to 10 Ω	-
TCR: Absolute	± 300 ppm/ $^{\circ}\text{C}$	-55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$
Tolerance: Absolute	1 % to 20 % (value dependent)	-
Working Voltage	$\sqrt{P \times R}$	-
Operating Temperature Range	-55 $^{\circ}\text{C}$ to +155 $^{\circ}\text{C}$	-
Storage Temperature Range	-55 $^{\circ}\text{C}$ to +155 $^{\circ}\text{C}$	-
Noise	< -35 dB (typical)	-

COMPONENT RATINGS

CASE SIZE	POWER RATING (mW)	RESISTANCE RANGE (Ω)
0505	125	0.05 to 5.0
0603	125	0.10 to 5.0
0805	200	0.10 to 6.0
1005	250	0.15 to 10.0
1020	1000	0.03 to 1.0
1206	330	0.10 to 10.0
1505	500	0.25 to 10.0
2010	1000	0.17 to 10.0
2512	2000	0.18 to 10.0

Note

- Resistor values beyond ranges shall be reviewed by the factory

DIMENSIONS in inches


CASE SIZE	SIZE				
	L	W	T	D1	D2
	± 0.006	± 0.005	± 0.005	± 0.005	± 0.005
0505	0.055	0.050	0.020	0.010	0.015
0603	0.063	0.032	0.018	0.012	0.015
0805	0.080	0.050	0.020	0.016	0.015
1005	0.105	0.050	0.020	0.015	0.015
1020	0.098	0.197	0.024	0.016	0.022
1206	0.125	0.063	0.020	0.015	0.015
1505	0.155	0.050	0.020	0.015	0.015
2010	0.197	0.098	0.020	0.020	0.020
2512	0.250	0.124	0.020	0.020	0.020

MECHANICAL SPECIFICATIONS

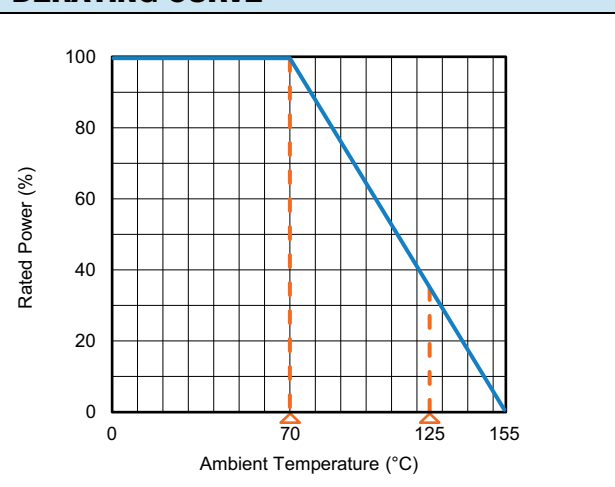
Resistive Element	Metal glaze
Substrate Material	Alumina
Terminals	Pre-soldered

ENVIRONMENTAL TESTS

ENVIRONMENTAL TEST	LIMITS ⁽¹⁾ $\Delta R \pm \%$	TYPICAL 1 $\Omega \Delta R \pm \%$
STO ⁽²⁾	0.5	-0.19
LTO	0.1	-0.03
RSH	0.5	-0.14
Moisture	0.5	0.07
HTE	1.0	0.02
Load Life (2000 h at +70 °C)	0.5	0.20
TCR (ppm)	± 300	+150

Notes

- (1) 0.01 Ω additional allowed for measurement error
(2) Testing conducted at 2.0 x working voltage on 2512 case size all other 2.5 x

DERATING CURVE




GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: L-1206M1R00GBT1

L	-	1	2	0	6	M	1	R	0	0	G	B	T	1
GLOBAL MODEL	CASE SIZE	TCR CHARACTERISTICS		OHMIC VALUE		TOLERANCE		TERMINATION		PACKAGING				
L- = low value wraparound chip resistor	0505 0603 0805 ⁽¹⁾ 1005 1020 1206 1505 2010 2512	M = 300 ppm/°C N = 350 ppm/°C O = 400 ppm/°C P = 500 ppm/°C	First 3 digits are significant figures and the last digit specifies the number of zeros to follow. "R" designates the decimal point. Example: R100 = 0.1 Ω 1R60 = 1.6 Ω		F = 1 % G = 2 % H = 3 % J = 5 % K = 10 % L = 20 %		B = wraparound Sn/Pb solder w/ nickel barrier S = wraparound lead (Pb)-free solder, 100 % Sn w/ nickel barrier RoHS compliant - e3		BULK BS = 100 min., 1 mult. WAFFLE WS =100 min., 1 mult. WI = 100 min., 1 mult. (item single lot date code) 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 TI = 100 min., 1 mult. (item single lot date code) TP = 100 min., 1 mult. (package unit single lot date code) TS = 100 min., 1 mult.					

Historical Part Number Example: L1206M1R00HBT (for reference purposes only)

L	1206	M	1R00	H	B	T
STYLE	CASE SIZE	TCR CHARACTERISTICS	OHMIC VALUE	TOLERANCE	TERMINATION	PACKAGING

Notes

- ⁽¹⁾ 0705 and 0805 are the same (only use 0805 when ordering)
⁽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.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. 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.