

Wirewound Resistor, Open Style, Current Shunts, Very Low Value



FEATURES

- Extremely low resistance values for current sensing applications
- Low temperature coefficients (down to 100 ppm/°C)
- Complete welded construction
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912



STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL ⁽¹⁾	HISTORICAL MODEL	TOLERANCE ⁽²⁾ %	RESISTANCE RANGE Ω
MRS-1298...xx	MRS1298xx	1, 5, 10	0.001 to 0.050
MRS-1367...xx	MRS1367xx	1, 5, 10	0.001 to 0.100
MRS-1375...xx	MRS1375xx	1, 5, 10	0.001 to 0.010
MRS-1510...xx	MRS1510xx	1, 5, 10	0.001 to 0.500

Notes

⁽¹⁾ The xx is for the two digit "special" number as described in Dimensions tables MRS-1298, MRS-1367, MRS-1375, and MRS-1510.

⁽²⁾ Other tolerances may be available, contact factory.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	MRS RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	Typical is ± 100 (- 10 °C to + 80 °C) consult factory if application is TC sensitive
Maximum Current Rating	A	Dependent upon configuration, see Dimensions tables MRS-1298, MRS-1367, MRS-1375, and MRS-1510
Operating Temperature Range	°C	- 55 to + 275

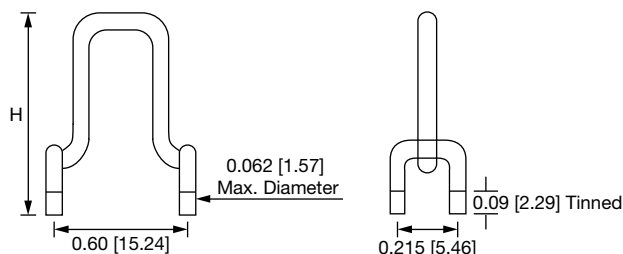
GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: MRS-1298R010JE1401 (visit www.vishay.net Vishay Dale parts numbering manual for all options)

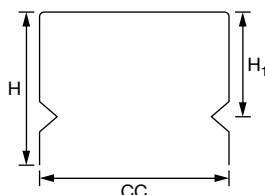
M	R	S	-	1	2	9	8	R	0	1	0	J	E	1	4	0	1
GLOBAL MODEL (8 digits)				VALUE (4 digits)				TOLERANCE (1 digit)		PACKAGING CODE (3 digits)			SPECIAL (2 digits)				
(See Standard Electrical Specifications Global Model column for options)				L = mΩ (below 0.01 Ω) R = Decimal 5L00 = 0.005 Ω R010 = 0.01 Ω				F = ± 1 % J = ± 5 % K = ± 10 %		E14 = Bulk pack			(Dash Number) From 01 to 99 as applicable				

Historical Part Number example: MRS129801J

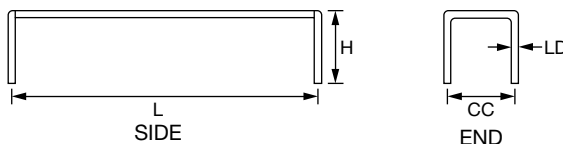
MRS1298	01	5 %
HISTORICAL MODEL	SIZE	TOLERANCE

DIMENSIONS in inches [millimeters]

MRS-1298

GLOBAL MODEL SPECIAL	RESISTANCE Ω	CURRENT RATING (MAXIMUM) A	DIMENSION H
01	0.010	25	0.750 [19.05]
02	0.005	25	0.750 [19.05]
03	0.003	25	0.580 [14.73]
04	0.001	25	0.400 [10.16]
05	0.050	10	0.700 [17.78]
06	0.010	15	0.350 [9.89]
07	0.005	15	0.350 [9.89]
08	0.002	15	0.400 [10.16]
09	0.00382	15	0.350 [9.89]
10	0.013	15	1.000 [25.40]
11	0.033	15	0.600 [15.24]
12	0.025	15	0.400 [10.16]
13	0.033	15	0.875 [22.22]
14	0.008	15	0.685 [17.40]
15	0.020	10	0.300 [7.62]
16	0.050	15	0.600 [15.24]
17	0.004	25	0.500 [12.70]
18	0.010	15	0.350 [9.89]


MRS-1367

GLOBAL MODEL SPECIAL	RESISTANCE Ω	CURRENT RATING (MAXIMUM) A	DIMENSION H TYPICAL	DIMENSION CC	DIMENSION H ₁ TYPICAL
03	0.050	10	0.750 [19.05]	1.500 [38.10]	0.500 [12.70]
04	0.010	15	0.750 [19.05]	0.900 [22.86]	0.625 [15.88]
05	0.020	10	0.500 [12.70]	0.750 [19.05]	0.375 [9.53]
06	0.025	10	0.625 [15.88]	0.750 [19.05]	0.500 [12.70]
07	0.040	10	0.800 [20.32]	0.812 [20.62]	0.675 [17.15]
08	0.050	8	0.500 [12.70]	0.960 [24.38]	0.375 [9.53]
09	0.070	8	0.650 [16.51]	1.300 [33.02]	0.525 [13.34]
10	0.070	10	0.800 [20.32]	1.600 [40.64]	0.675 [17.15]
11	0.005	15	0.750 [19.05]	0.750 [19.05]	0.550 [13.97]
12	0.033	8	0.500 [12.70]	0.400 [10.16]	0.325 [8.26]
13	0.025	10	0.475 [12.07]	0.960 [24.38]	0.350 [9.89]
14	0.015	10	0.750 [19.05]	1.500 [38.10]	0.625 [15.88]
15	0.050	10	0.625 [15.88]	1.080 [27.43]	0.500 [12.70]
16	0.100	6.5	0.620 [15.75]	0.625 [15.88]	0.400 [10.16]
17	0.020	12.5	0.500 [12.70]	0.600 [15.24]	0.375 [9.53]
18	0.025	15	0.540 [13.72]	0.800 [20.32]	0.415 [10.54]
21	0.030	10	0.725 [18.42]	0.750 [19.05]	0.525 [13.34]
25	0.022	10	0.710 [18.03]	0.620 [15.75]	0.510 [12.95]

DIMENSIONS in inches [millimeters]


MRS-1375						
GLOBAL MODEL SPECIAL	RESISTANCE Ω	CURRENT RATING (MAXIMUM) A	DIMENSION L	DIMENSION H	DIMENSION CC	DIMENSION LD
01	0.001	30	0.750 [19.05]	0.500 [12.70]	0.500 [12.70]	0.080 [2.03]
02	0.002	40	1.700 [43.18]	0.500 [12.70]	0.500 [12.70]	0.080 [2.03]
03	0.003	40	1.700 [43.18]	0.500 [12.70]	0.500 [12.70]	0.080 [2.03]
04	0.001	40	1.700 [43.18]	0.500 [12.70]	0.500 [12.70]	0.080 [2.03]
05	0.002	30	1.250 [31.75]	0.750 [19.05]	0.500 [12.70]	0.080 [2.03]
06	0.004	30	1.250 [31.75]	0.750 [19.05]	0.500 [12.70]	0.080 [2.03]
07	0.00166	35	1.600 [40.64]	0.500 [12.70]	0.500 [12.70]	0.080 [2.03]
09	0.005	40	2.865 [72.77]	0.750 [19.05]	0.500 [12.70]	0.080 [2.03]
10	0.010	20	1.400 [35.56]	0.750 [19.05]	0.500 [12.70]	0.080 [2.03]
11	0.004	30	1.200 [30.48]	0.400 [10.16]	0.500 [12.70]	0.080 [2.03]
13	0.001	40	1.250 [31.75]	0.750 [19.05]	0.500 [12.70]	0.080 [2.03]

MRS-1510						
GLOBAL MODEL SPECIAL	RESISTANCE Ω	CURRENT RATING (MAXIMUM) A	DIMENSION L	DIMENSION H	DIMENSION CC	DIMENSION LD
01	0.050	15	1.00 [25.40]	0.400 [10.16]	0.215 [5.46]	0.057 [1.45]
02	0.003	25	1.10 [27.94]	0.355 [9.02]	0.200 [5.08]	0.040 [1.02]
03	0.0015	40	1.10 [27.94]	0.380 [9.65]	0.270 [6.86]	0.081 [2.06]
04	0.001	40	1.00 [25.40]	0.500 [12.70]	0.300 [7.62]	0.081 [2.06]
05	0.002	30	1.25 [31.75]	0.750 [19.05]	0.375 [9.53]	0.080 [2.03]
06	0.001	80	2.19 [55.63]	0.625 [15.87]	0.625 [15.87]	0.128 [3.25]

MATERIAL SPECIFICATIONS

Element: Copper-nickel alloy or nickel-chrome alloy, depending on resistance value

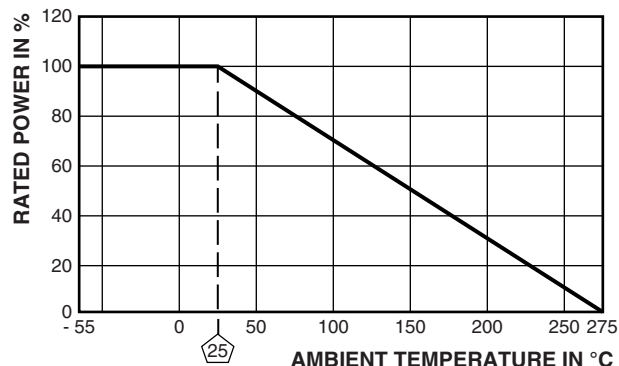
Coating: Silicone, when requested

Standard Terminals: Tinned copper

Part Marking: None

AMBIENT TEMPERATURE DERATING

Derating is required for ambient temperatures above 25 °C per the following graph:

DERATING




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.