

## 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](http://www.vishay.com/doc?99912)


**STANDARD ELECTRICAL SPECIFICATIONS**

GLOBAL MODEL <sup>(1)</sup>	HISTORICAL MODEL	TOLERANCE <sup>(2)</sup> %	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**

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

<sup>(2)</sup> 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

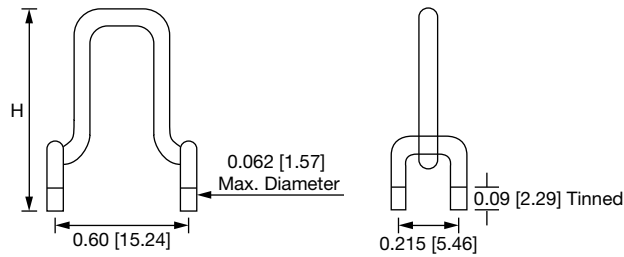
**GLOBAL PART NUMBER INFORMATION**

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

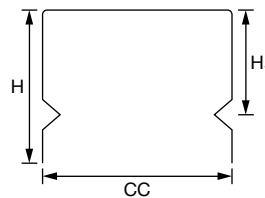
M	R	S	-	1	2	9	8	R	0	1	0	J	E	1	4	0	1
GLOBAL MODEL (8 digits) <small>(See Standard Electrical Specifications Global Model column for options)</small>				VALUE (4 digits) L = mΩ <b>(below 0.01 Ω)</b> R = Decimal 5L00 = 0.005 Ω R010 = 0.01 Ω				TOLERANCE (1 digit) F = ± 1 % J = ± 5 % K = ± 10 %		PACKAGING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

Historical Part Number example: MRS129801J

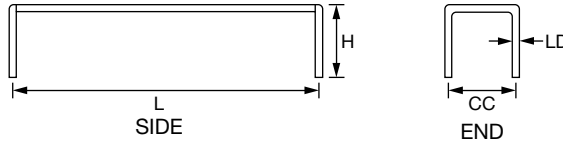
MRS1298	01	5 %
HISTORICAL MODEL	SIZE	TOLERANCE

**DIMENSIONS** in inches [millimeters]


<b>MRS-1298</b>			
GLOBAL MODEL SPECIAL	RESISTANCE $\Omega$	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]



<b>MRS-1367</b>					
GLOBAL MODEL SPECIAL	RESISTANCE $\Omega$	CURRENT RATING (MAXIMUM) A	DIMENSION H TYPICAL	DIMENSION CC	DIMENSION H <sub>1</sub> 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]


<b>MRS-1375</b>						
GLOBAL MODEL SPECIAL	RESISTANCE $\Omega$	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]

<b>MRS-1510</b>						
GLOBAL MODEL SPECIAL	RESISTANCE $\Omega$	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

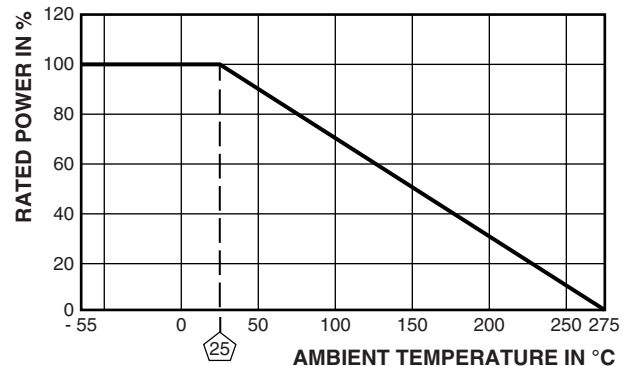
**Coating:** Silicone, when requested

**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.

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.