

### Features:

- Metal element resistors
- Tinned copper leads
- Low temperature coefficient
- Molded bodies
- TMR – Kelvin Bridge Test
- MRS high stability version
- Cut and formed product is available on selected sizes - contact factory for details
- RoHS compliant, lead free and halogen free



### Electrical Specifications

Type / Code	Power Rating @ 70 °C (Watts)	Short Time Overload	Dielectric Strength	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance
					1%, 5%
MR1 <sup>(2)</sup>	1	5 seconds at 5 X rated power	500 VAC	± 50 to ± 400 ppm/°C <sup>(1)</sup>	0.01 - 0.1
MR3 <sup>(3)</sup>	3				0.005 - 0.2
MR5 <sup>(4)</sup>	5				0.005 - 0.3
MR10	10				0.01 - 0.5
TMR3	3			± 40 ppm/°C	0.005 - 0.2
TMR5	5				0.005 - 0.3

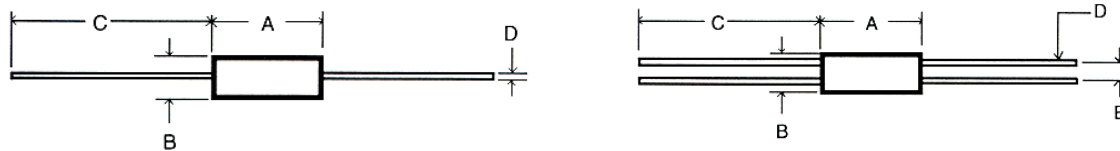
(1) TCR is value dependent. Contact factory for specific data.

(2) MR1 values 0.05 Ω and below are non-magnetic and non-inductive.

(3) MR3 values 0.1 Ω and below are non-magnetic and non-inductive.

(4) MR5 values 0.15 Ω and below are non-magnetic and non-inductive.

### Mechanical Specifications



**MR**

**TMR**

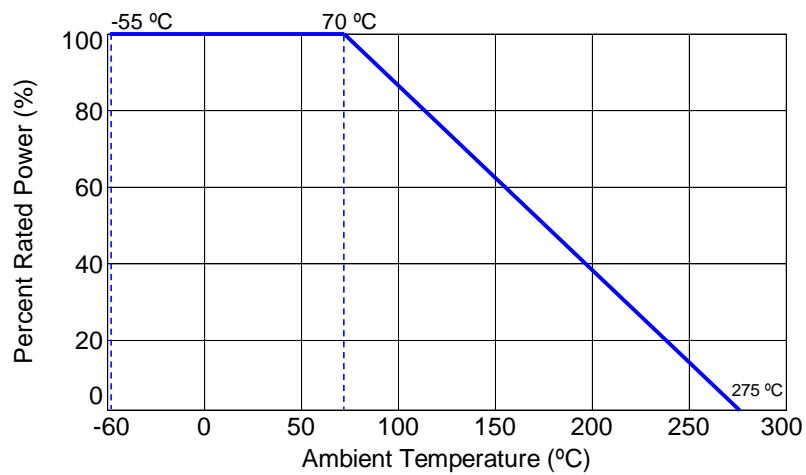
Type / Code	A Body Length	B Body Diameter	C Lead Length (Bulk) <sup>(1)</sup>	D Lead Diameter	E Lead Spacing (Ref.)	Unit
MR1	0.385 ± 0.015	0.135 ± 0.015	1.375 ± 0.125	0.032 ± 0.002		inches
	9.78 ± 0.38	3.43 ± 0.38	34.93 ± 3.18	0.81 ± 0.05		mm
MR3	0.560 ± 0.015	0.205 ± 0.015	1.375 ± 0.125	0.032 ± 0.002		inches
	14.22 ± 0.38	5.21 ± 0.38	34.93 ± 3.18	0.81 ± 0.05		mm
MR5	0.925 ± 0.015	0.330 ± 0.015	1.375 ± 0.125	0.036 ± 0.002		inches
	23.50 ± 0.38	8.38 ± 0.38	34.93 ± 3.18	0.91 ± 0.05		mm
MR10	1.925 ± 0.015	0.475 ± 0.015	1.375 ± 0.125	0.036 ± 0.002	inches	
	48.90 ± 0.38	12.07 ± 0.38	34.93 ± 3.18	0.91 ± 0.05	mm	
TMR3	0.625 ± 0.015	0.205 ± 0.015	1.375 ± 0.125	0.032 ± 0.002	0.125	inches
	15.88 ± 0.38	5.21 ± 0.38	34.93 ± 3.18	0.81 ± 0.05	3.18	mm
TMR5	0.940 ± 0.015	0.330 ± 0.015	1.375 ± 0.125	0.036 ± 0.002	0.200	inches
	23.88 ± 0.38	8.38 ± 0.38	34.93 ± 3.18	0.91 ± 0.05	5.08	mm

(1) See Packaging Specification for lead length dimension for tape and reel packaged product.

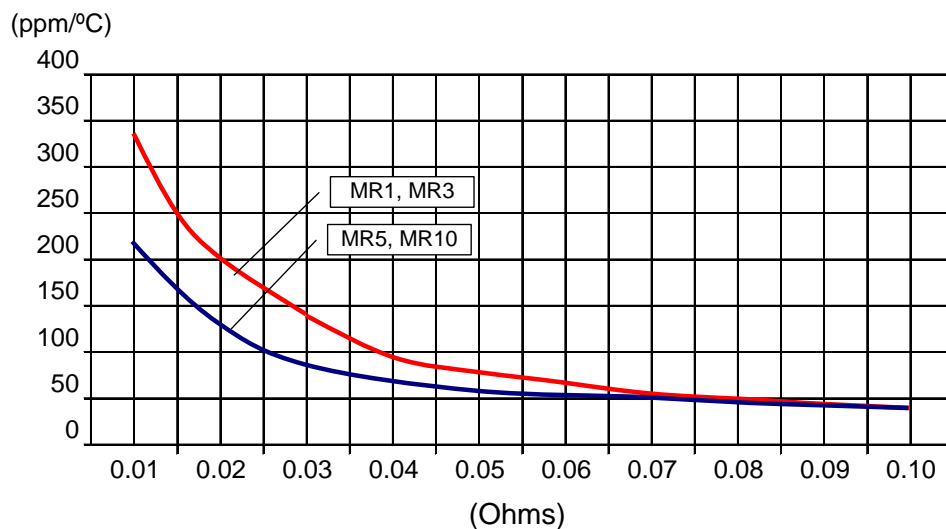
Performance Characteristics	
Test	Test Results
Moisture Resistance	±5%
Thermal Shock	±2%
Load Life @ 70 °C - 1000 hours	±5%
Resistance to Soldering Heat	±2%
Short Time Overload	±2%
Dielectric Withstanding Voltage	±2%

Operating Temperature Range: -55 °C to +275 °C

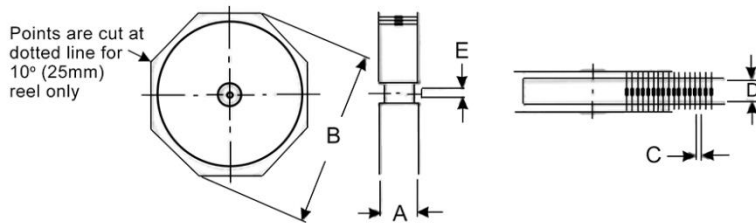
### Power Derating Curve:



### TCR X Resistance:



**Packaging Specifications**



Series	Code	A max <sup>(1)</sup>	B max	C	D <sup>(2)</sup>	Tape	Unit
MR	1	3.311 84.10	13.504 343.00	0.197 ± 0.020 5.00 ± 0.50	2.063 ± 0.079 52.40 ± 2.00	0.250 6.35	inches mm
	3	3.484 88.50	13.504 343.00	0.394 ± 0.020 10.00 ± 0.50	2.063 ± 0.079 52.40 ± 2.00	0.250 6.35	inches mm
	5	3.850 97.80	13.504 343.00	0.394 ± 0.020 10.00 ± 0.50	2.875 ± 0.079 73.03 ± 2.00	0.250 6.35	inches mm
	10	4.764 121.00	13.504 343.00	0.394 ± 0.020 10.00 ± 0.50	4.310 ± 0.079 109.47 ± 2.00	0.250 6.35	inches mm
TMR	3	6.299 160.00	13.504 343.00	0.394 ± 0.020 10.00 ± 0.50	2.063 ± 0.079 52.40 ± 2.00	0.250 6.35	inches mm
	5	6.614 168.00	13.504 343.00	0.394 ± 0.020 10.00 ± 0.50	2.063 ± 0.079 52.40 ± 2.00	0.250 6.35	inches mm

Dimension "E": This is a non-critical dimension that does not have a tolerance in the standard.

Range of diameters is from 0.547 inches (13.90 mm) to 1.500 inches (38.10 mm).

- (1) Reference value only. The "A" dimension shall be governed by the overall length of the taped component. The distance between flanges shall be 0.059 inches (1.50 mm) to 0.315 (8.00 mm) greater than the overall component.
- (2) The given dimension "D" expresses the standard width spacing. A 26 mm narrow spacing is available as option "N" packaging code.

**RoHS Compliance**

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union’s directive regarding “Restrictions on Hazardous Substances” (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

**RoHS Compliance Status**

Standard Product Series	Description	Package / Termination Type	Standard Series RoHS Compliant	Lead-Free Termination Composition	Lead-Free Mfg. Effective Date (Std Product Series)	Lead-Free Effective Date Code (YY/WW)
MR	Low Resistance Value Leaded Resistor - Molded 2 Leads	Axial Kelvin	YES	100% Matte Sn	Jan-06	06/01
TMR	Low Resistance Value Leaded Resistor - Molded 4 Leads	Axial Kelvin	YES	100% Matte Sn	Jan-06	06/01

**“Conflict Metals” Commitment**

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the “conflict region” of the Eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

### Compliance to “REACH”

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, “The Registration, Evaluation, Authorization and Restriction of Chemicals”, otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

### Environmental Policy

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

## How to Order

