Low Resistance Value Resistor - Molded 2 and 4 Leads

**Resistive Product Solutions** 

#### 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 Stackpole for details
- 100% RoHS compliant and lead free without exemption
- Halogen free
- REACH compliant

Electrical Specifications						
Type/Code	Power Rating (W) @ 70ºC	Short Time Overload	Dielectric Strength	TCR (ppm/ºC)	Ohmic Range ( $\Omega$ ) and Tolerance	
					1%, 5%	
MR1 <sup>(2)</sup>	1	5 seconds at 5 X rated power		$\pm 50$ to $\pm 400$ <sup>(1)</sup>	0.01 - 0.1	
MR3 <sup>(3)</sup>	3				0.005 - 0.2	
MR5 <sup>(4)</sup>	5		500 VAC		0.005 - 0.3	
MR10 <sup>(5)</sup>	10		000 110		0.01 - 0.5	
TMR3	3			± 40	0.005 - 0.2	
TMR5	5			± 40	0.005 - 0.3	

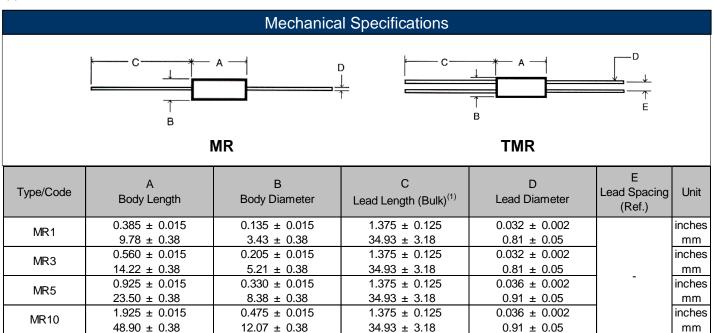
(1) TCR is value dependent. Contact Stackpole for specific data.

(2) MR1 values  $0.05\Omega$  and below are non-magnetic and non-inductive. MR1 values  $\geq 0.06\Omega$  are ribbon element wound on ceramic core.

(3) MR3 values  $0.1\Omega$  and below are non-magnetic and non-inductive. MR3 values  $\geq 0.15\Omega$  are ribbon element wound on ceramic core.

(4) MR5 values  $0.15\Omega$  and below are non-magnetic and non-inductive. MR5 values  $\geq 0.15\Omega$  are ribbon element wound on ceramic core.

(5) MR10 all values are ribbon element wound on ceramic core.



1.375 ± 0.125

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 $34.93 \pm 3.18$ 

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 $0.032 \pm 0.002$ 

 $0.81 \pm 0.05$ 

 $0.036 \pm 0.002$ 

 $0.91 \pm 0.05$ 

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

0.205 ± 0.015

 $5.21 \pm 0.38$ 

0.330 ± 0.015

 $8.38 \pm 0.38$ 

TMR3

TMR5

0.125

3.18

0.200

5.08

inches

mm

inches

mm

 $0.625 \pm 0.015$ 

 $15.88 \pm 0.38$ 

0.940 ± 0.015

 $23.88 \pm 0.38$ 



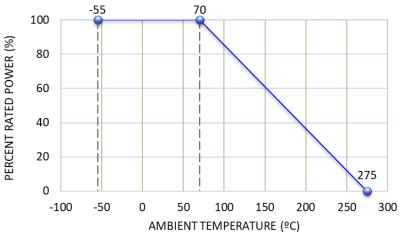
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Stackpole Electronics, Inc. Resistive Product Solutions

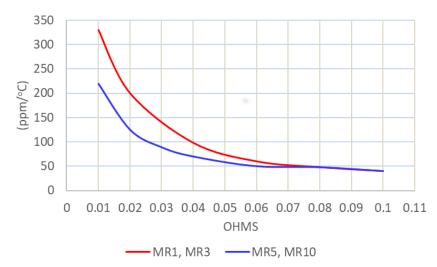
Performance Characteristics						
Test	Test Results					
Moisture Resistance	± 5%					
Thermal Shock	± 2%					
Load Life @ 70°C - 1000 hours	± 5%					
Resistance to Soldering Heat	± 2%					
Short Time Overload	± 2%					
Dielectric Withstanding Voltage	± 2%					

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

### Power Derating Curve:



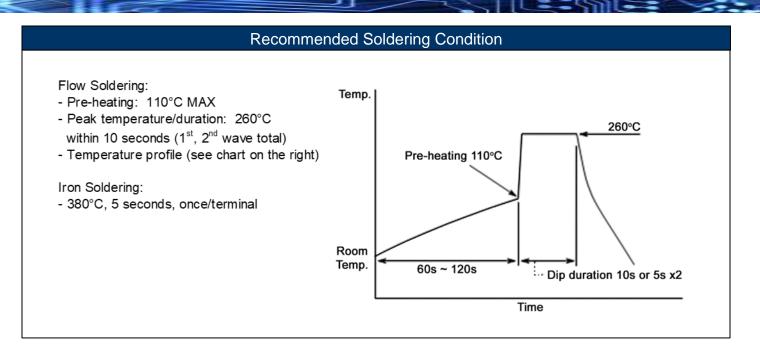
### TCR X Resistance:



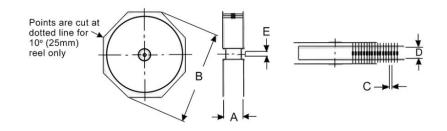
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Stackpole Electronics, Inc.

**Resistive Product Solutions** 



**Packaging Specifications** 



Series	Code	A max <sup>(1)</sup>	B max	С	D <sup>(2)</sup>	Таре	Unit
	1	3.311	13.504	0.197 ± 0.020	2.063 ± 0.079	0.250	inches
		84.10	343.00	$5.00 \pm 0.50$	52.40 ± 2.00	6.35	mm
	3	3.484	13.504	0.394 ± 0.020	2.063 ± 0.079	0.250	inches
MR		88.50	343.00	$10.00 \pm 0.50$	52.40 ± 2.00	6.35	mm
IVIN	5	3.850	13.504	0.394 ± 0.020	2.875 ± 0.079	0.250	inches
	5	97.80	343.00	$10.00 \pm 0.50$	73.03 ± 2.00	6.35	mm
	10	4.764	13.504	0.600 ± 0.020	4.375 ± 0.079	0.250	inches
		121.00	343.00	15.24 ± 0.50	111.13 ± 2.00	6.35	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.

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## Stackpole Electronics, Inc.

**Resistive Product Solutions** 

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.

