

Features

- Formerly a Riedon™ product
- Resistances from 0.003 to 0.10 Ω
- Resistance tolerances as low as $\pm 0.1\%$
- Power rating: 1 to 10 watts
- TCR as low as ± 20 PPM/ $^{\circ}\text{C}$ (4 terminal models)
- For current sensing and shunt applications

- All welded construction
- Low inductance (<10 nH)
- Non-inductive metal element
- Four-terminal models available
- RoHS compliant*

MT Series – Riedon™ Low Ohm Power Resistors by Bourns

Specifications

Specification	Value
Resistance Range ¹	0.003 to 0.10 ohms
Tolerances ²	2 Terminal: $\pm 1\%$ / $\pm 5\%$ 4 Terminal: $\pm 0.1\%$ / $\pm 0.5\%$ / $\pm 1\%$ / $\pm 5\%$
Temperature Coefficient	See chart below
Inductance	<10 nH
Operating Temperature Range	-55 $^{\circ}\text{C}$ to +275 $^{\circ}\text{C}$
Dielectric Strength	1000 VAC (500 VAC for MT-1A and MT-2A)
Insulation Resistance	>1000 MOhms / dry
Terminal Finish	100 % matte tin over copper
Flammability	UL94 V-0

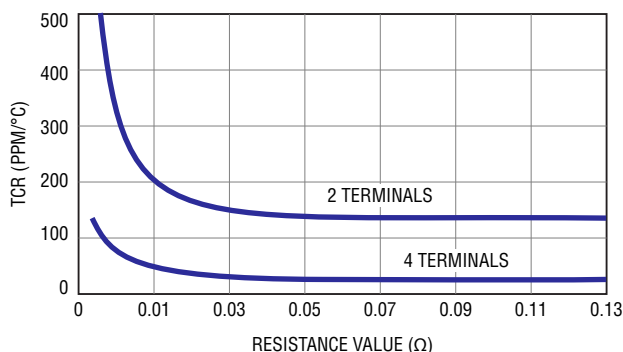
¹ Other resistance values (molding wirewound) may be available. Please [contact Bourns](#).

² Other tolerances available. Please [contact Bourns](#).

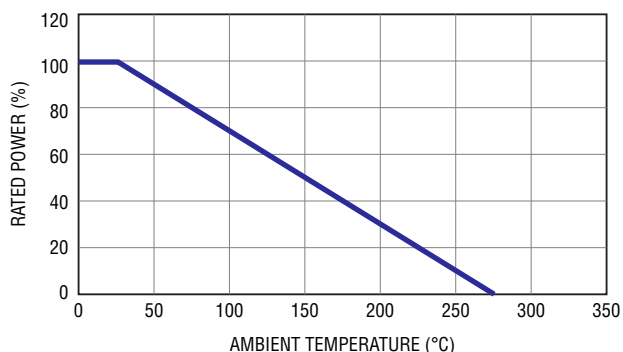
Environmental Characteristics

Test (MIL-STD 202)	ΔR	Test Conditions
Load Life	$\pm 1\%$	70 $^{\circ}\text{C}$ / 90 min. ON / 30 min. OFF / 1000 hrs.
Moisture Resistance		40 $^{\circ}\text{C}$ / 90-95 % RH / DC 0.1 W / 1000 hrs.
Temperature Cycling		-40 $^{\circ}\text{C}$ for 30 min. / +125 $^{\circ}\text{C}$ for 30 min. / 1000 hrs.
Short Term Overload		5X rated power for 5 seconds

Temperature Coefficient of Resistance (TCR)



Power Derating Curve



Additional Information

Click these links for more information:



How To Order

MT 5 - 0R1 F 1 - TR14

Model _____

Power Rating Code _____
(See Specifications and Dimensions table on page 2)

Resistance Code _____
"R" represents decimal point
(Example: 0R1 = 0.1 Ω)

Tolerance _____
B = $\pm 0.1\%$ (4-terminal only)
D = $\pm 0.5\%$ (4-terminal only)
F = $\pm 1\%$
J = $\pm 5\%$

Internal Use _____

Terminals _____
(blank) = 2 terminals
4T = 4 terminals

Packaging Options
(blank) = Bulk Packaging
-TR10 = Tape and Reel (10-inch Reel)
-TR12 = Tape and Reel (12-inch Reel)
-TR14 = Tape and Reel (14-inch Reel)

(Specific TCR values available upon request.)

Packaging Specifications

MT Series	Bulk	10" Reel	12" Reel	14" Reel
MT1A	500	2000	N/A	N/A
MT2A, MT2B, MT2C	500	N/A	1500	N/A
MT3, MT4, MT5, MT6, MT10	250	N/A	N/A	500



CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant. See www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

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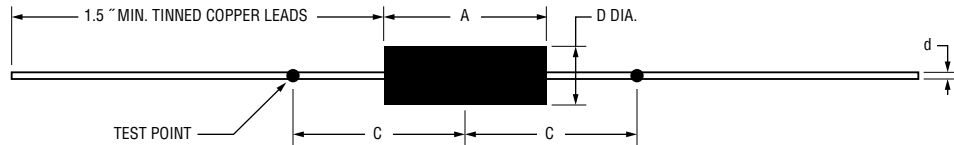
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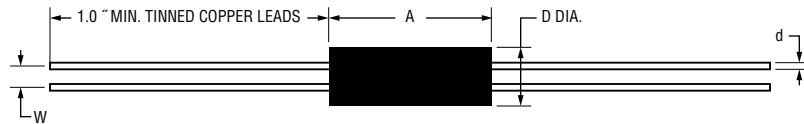
Specifications and Dimensions

Two Terminals



DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

Four Terminals (4T)



Model and Power Rating Code	Power Rating @ 25 °C (W)	A	D	C	d	W (4T)
MT1A	1	$\frac{10.9 \pm 0.5}{(.430 \pm .020)}$	$\frac{3.0 \pm 0.5}{(.120 \pm .020)}$	$\frac{15.0 \pm 0.5}{(.590 \pm .020)}$	$\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	—
MT2A	2	$\frac{10.9 \pm 0.5}{(.430 \pm .020)}$	$\frac{3.0 \pm 0.5}{(.120 \pm .020)}$	$\frac{15.0 \pm 0.5}{(.590 \pm .020)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$	
MT2B	3	$\frac{14.7 \pm 0.5}{(.580 \pm .020)}$	$\frac{5.1 \pm 0.5}{(.200 \pm .020)}$	$\frac{16.9 \pm 0.5}{(.665 \pm .020)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$	
MT2C	3	$\frac{12.7 \pm 0.5}{(.500 \pm .020)}$	$\frac{6.4 \pm 0.5}{(.250 \pm .020)}$	$\frac{15.9 \pm 0.5}{(.625 \pm .020)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$	
MT3	4	$\frac{15.2 \pm 0.5}{(.600 \pm .020)}$	$\frac{6.4 \pm 0.5}{(.250 \pm .020)}$	$\frac{17.1 \pm 0.5}{(.675 \pm .020)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$	$\frac{3.2 \pm 0.3}{(.125 \pm .010)}$
MT4	4.5	$\frac{19.1 \pm 0.5}{(.750 \pm .020)}$	$\frac{6.4 \pm 0.5}{(.250 \pm .020)}$	$\frac{19.1 \pm 0.5}{(.750 \pm .020)}$	$\frac{1.0 \pm 0.05}{(.040 \pm .002)}$	
MT5	5	$\frac{22.6 \pm 0.5}{(.890 \pm .020)}$	$\frac{8.5 \pm 0.5}{(.335 \pm .020)}$	$\frac{20.8 \pm 0.5}{(.820 \pm .020)}$	$\frac{1.0 \pm 0.05}{(.040 \pm .002)}$	
MT6	6	$\frac{26.8 \pm 0.5}{(1.055 \pm .020)}$	$\frac{10.0 \pm 0.5}{(.395 \pm .020)}$	$\frac{22.9 \pm 0.5}{(.903 \pm .020)}$	$\frac{1.0 \pm 0.05}{(.040 \pm .002)}$	
MT10	10	$\frac{44.58 \pm 0.5}{(1.755 \pm .020)}$	$\frac{9.02 \pm 0.5}{(.355 \pm .020)}$	$\frac{34.0 \pm 0.5}{(1.338 \pm .020)}$	$\frac{1.0 \pm 0.05}{(.040 \pm .002)}$	

Terminal strength: 10 lb. pull test

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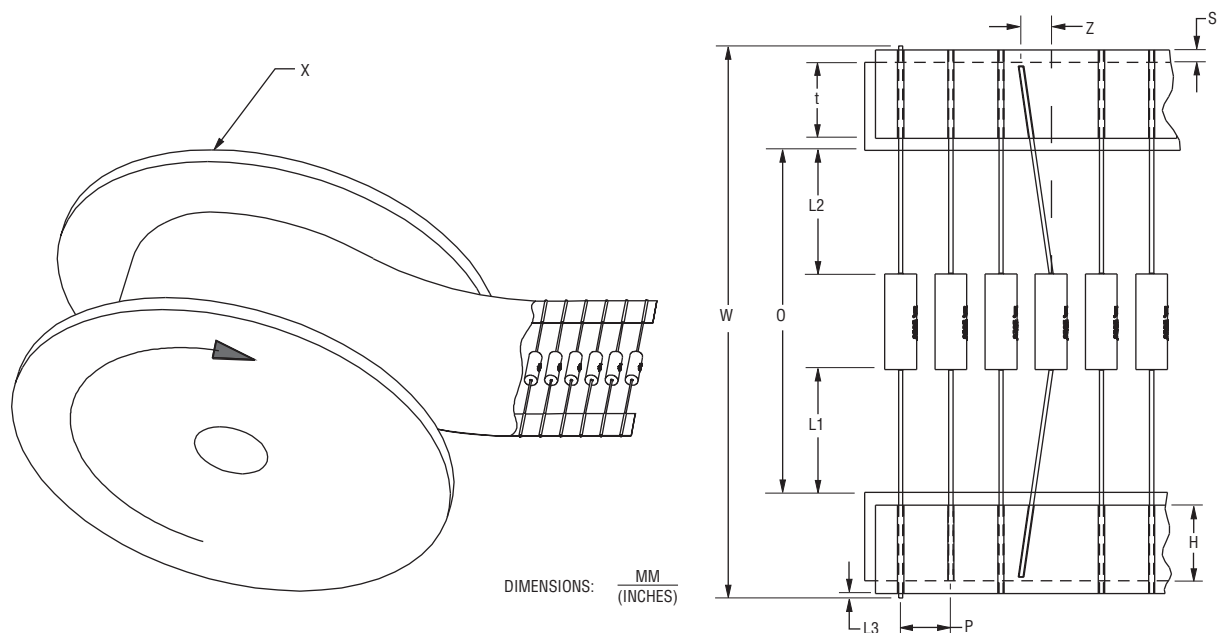
Users should verify actual device performance in their specific applications.

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Packaging Specifications



Model	Dimension O (mm)	Reel Size (Inches) Dimension X	Pitch (Inches) Dimension P	Clean Lead to Clean Lead Eccentricity (Max.) Dimension L1–L2	Lead Extension (Max.) - Zero is Preferred Dimension L3	Lead Bending Dimension Z	Exposed Adhesive (Max.) Dimension S	Tape Width (mm) Dimension t	Lead Sandwich (Min.) Dimension H	Overall Width (Max.) Dimension W
MT1A	2.421-2.579	10	0.2	$\frac{1.4}{(.055)}$	$\frac{0.8}{(.031)}$	$\frac{1.0}{(.039)}$	$\frac{0.8}{(.031)}$	$\frac{7}{(177.8)}$	t/2	$\frac{123.5}{(4.862)}$
MT2A		12								
MT2B										
MT2C	1.983-2.141	0.4								
MT3	2.421-2.579		14							
MT4										
MT5										
MT6										
MT10	3.206-3.364	0.6								

REV. 02/26

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