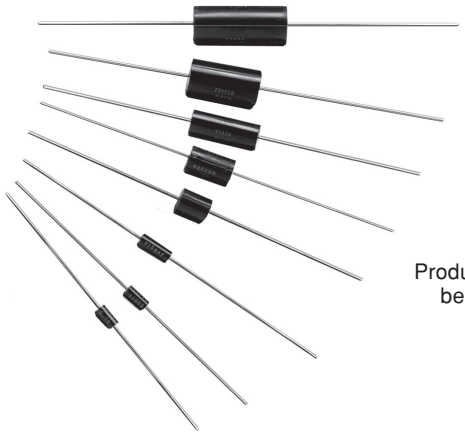
Bulk Metal® Foil Technology
Tubular Axial Lead Resistors, Meets or Exceeds MIL-R-39005 Requirements



Product may not be to scale

THROUGH HOLE

This series of axial leaded resistors is made using the same foil technology as the S102C. The difference is axial versus radial leads. Axial leads have the advantage of readily available auto insertion equipment while the radial leaded devices may require additional tooling. Also, when converting from metal film (RNC 55) to foil (VMTA 55) boards may already be laid out for the axial leaded device. It is worth noting that for new designs the S102C footprint is the smallest in the industry (taking into account the need for lead exit to board pad length allowance).

FEATURES

- Resistance Range: 5Ω to 500KΩ
- Thermal EMF: 0.1μV/°C maximum; 0.05μV/°C typical
- Power Rating: 0.2W to 1.0W @ + 70°C
- Long Term Stability: ± 0.0025% (25ppm) per year under low power and room temperature conditions
- Load-Life Stability (for 2,000 hours): ± 0.05% Maximum ΔR at rated power and temperature
- Temperature Coefficient of Resistance: ± 8ppm/°C (– 55°C to + 125°C); ± 4ppm/°C (0 to + 60°C)
- Resistance Tolerances: 0.01%, 0.02%, 0.05%, 0.1%, 0.25%, 0.5%, 1.0%
- Non-Inductive
- Voltage Coefficient: < 0.1ppm/V
- Terminal Type: Solder Coated Copper

TABLE 1 - MODEL SELECTION

VISHAY MODEL[1]	MIL STYLE	POWER @ + 70°C	POWER @ + 125°C	MAXIMUM WORKING VOLTAGE	RESISTANCE RANGE[1] (Ω)	TIGHTEST TOLERANCE	TCR RANGE [2,3]
VTA56	RBR56	0.25 W	0.125 W	300 V	5 to 24R9 25 to 150K	± 0.1% ± 0.01%	V4 Standard V3, V2 (Available)
VTA55	RBR55	0.3 W	0.15 W	300 V	5 to 24R9 25 to 150K	± 0.1% ± 0.01%	V4 Standard V3, V2 (Available)
VTA54	RBR54	0.5 W	0.25 W	300 V	5 to 24R9 25 to 300K	± 0.1% ± 0.01%	V4 Standard V3, V2 (Available)
VTA53	RBR53	0.66 W	0.33 W	300 V	5 to 24R9 25 to 300K	± 0.1% ± 0.01%	V4 Standard V3, V2 (Available)
VTA52	RBR52	1.0 W	0.5 W	300 V	5 to 24R9 25 to 500K	± 0.1% ± 0.01%	V4 Standard V3, V2 (Available)
VMTA55	RNC55	0.2 W	0.1 W	200 V	5 to 49R9 50 to 30K	± 0.1% ± 0.01%	V4 Standard V3, V2 (Available)
VMTB60	RNC60	0.25 W	0.125 W	250 V	5 to 49R9 50 to 60K	± 0.1% ± 0.01%	V4 Standard V3, V2 (Available)

NOTES:

[1] For higher/lower resistance values, consult the Application Engineering Department.

[2] TCR options for values > 50 ohms (Reference + 25°C)

V4 = ± 4ppm/°C (0 to + 60°C); ± 8ppm/°C (– 55°C to + 125°C)
V3 = ± 3ppm/°C (0 to + 60°C); ± 5ppm/°C (– 55°C to + 125°C)
V2 = ± 2ppm/°C (0 to + 60°C); ± 5ppm/°C (– 55°C to + 125°C)

[3] V4 TCR for values ≤ 50Ω.

TABLE 2 - TCR (ppm/°C)

VALUES	0/+ 25/+ 60°C	- 55/+ 25/+ 125°C
25R - 50R	5	8
15R - 24R999	6	10
5R - 14R999	8	12
1R - 4R999	15	20

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FIGURE 1 - VTA/VMTA SERIES STANDARD PRINTING

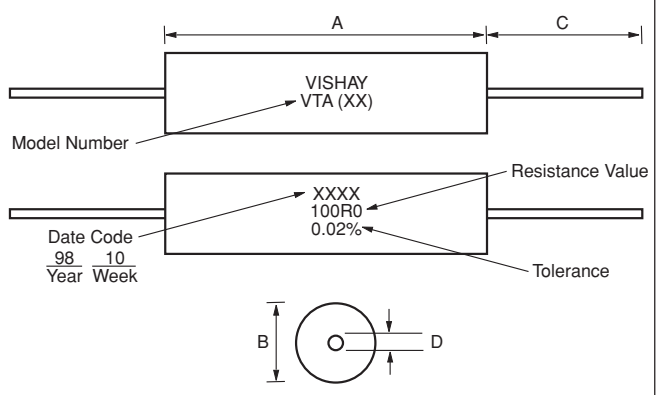

FIGURE 2 - POWER DERATING CURVE

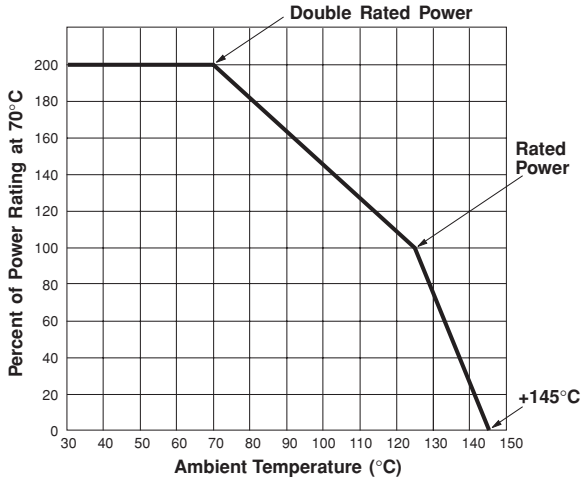

TABLE 3 - VTA/VMTA DIMENSIONS

VISHAY MODEL[1]	MIL SIZE	BODY				LEAD			
		LENGTH (A)		DIAMETER (B)		LENGTH (C)		DIAMETER (D)	
		INCH	mm	INCH	mm	INCH	mm	INCH	mm
VTA56	RBR56	0.356 $\frac{+0.005}{-0.010}$	9.04 $\frac{+0.13}{-0.25}$	0.260 $\frac{+0.005}{-0.015}$	6.60 $\frac{+0.13}{-0.38}$	1.5 Minimum	38.1	0.032	0.81
VTA55	RBR55	0.500 ± 0.020	12.70 ± 0.51	0.260 $\frac{+0.005}{-0.010}$	6.60 $\frac{+0.13}{-0.25}$	1.5 Minimum	38.1	0.032	0.81
VTA54	RBR54	0.750 $\frac{+0.020}{-0.032}$	19.05 $\frac{+0.51}{-0.81}$	0.260 $\frac{+0.005}{-0.010}$	6.60 $\frac{+0.13}{-0.25}$	1.5 Minimum	38.1	0.032	0.81
VTA53	RBR53	0.750 ± 0.020	19.05 ± 0.51	0.375 ± 0.015	9.53 ± 0.38	1.5 Minimum	38.1	0.032	0.81
VTA52	RBR52	1.000 $\frac{+0.020}{-0.032}$	25.40 $\frac{+0.51}{-0.81}$	0.375 ± 0.015	9.53 ± 0.38	1.35 Minimum	34.3	0.032	0.81
VMTA55	RNC55	0.270 ± 0.005	6.86 ± 0.13	0.120 $\frac{+0.005}{-0.010}$	3.05 $\frac{+0.13}{-0.25}$	1.5 Minimum	38.1	0.025	0.64
VMTB60	RNC60	0.375 ± 0.005	9.53 ± 0.13	0.160 ± 0.005	4.06 ± 0.13	1.5 Minimum	38.1	0.025	0.64

1. Terminal type: Solder Coated Copper

FIGURE 3 - TEMPERATURE COEFFICIENT OF RESISTANCE CHORD SLOPES

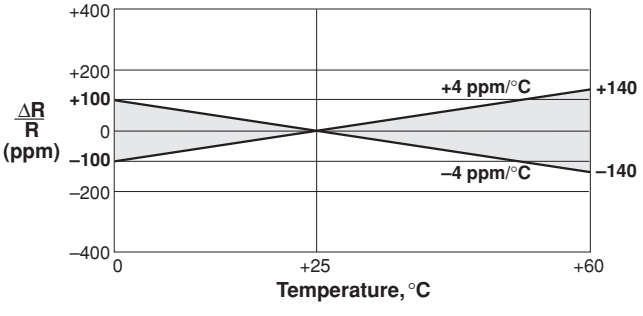

TABLE 4 - ORDERING INFORMATION

Please specify Vishay VTA/VMTA Series resistors as follows: (See Figure 1 for Standard Printing and Table 2 for Dimensions.)

Example:

VTA55	V4	2K0000	0.01
MODEL NO.	TC	RESISTANCE VALUE	TOLERANCE

Resistance Value, in ohms, is expressed by a series of 6 characters, 5 of which represent significant digits while the 6th is a dual purpose letter that designates both the multiplier and the location of the comma or decimal.

RESISTANCE RANGE	LETTER DESIGNATOR	MULTIPLIER FACTOR	EXAMPLE
5Ω to < 1KΩ	R	x1	100R01 = 100.01Ω
1KΩ to 500KΩ	K	$x10^3$	15K231 = 15,231Ω

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