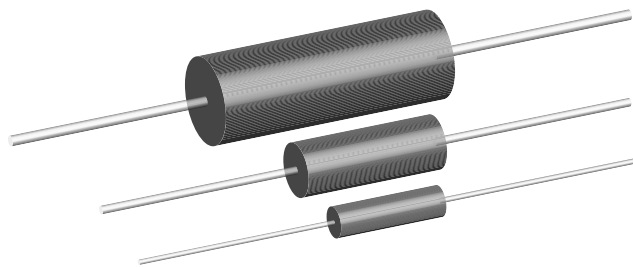




# Wirewound Resistors, Commercial Power, Axial Lead, Low Value



## FEATURES

- Ideal for all types of current sensing applications including switching and linear power supplies, instruments and power amplifiers
- Low inductance - less than 10 nH
- Cooler operation for high power to size ratio
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

Please reference the Vishay Dale closest equivalent:  
**LVR** ([www.vishay.com/doc?30206](http://www.vishay.com/doc?30206)).

### Notes

- There may be slight differences between the MTL product and the LVR product.
- See the cross-reference file for a complete list of differences and part number crosses:  
[www.vishay.net/files/Cross-Reference%20Data%20-%20PTN-DR-019-2015%20Rev%200.pdf](http://www.vishay.net/files/Cross-Reference%20Data%20-%20PTN-DR-019-2015%20Rev%200.pdf).

STANDARD ELECTRICAL SPECIFICATIONS				
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{25\text{ }^\circ\text{C}}$ W	RESISTANCE RANGE $\Omega$	TOLERANCE $\pm \%$
MTL1A	MTL-1A	1	0.003 to 0.1	1, 5
MTL2B	MTL-2B	2	0.003 to 0.1	1, 5
MTL03	MTL-3	3	0.003 to 0.1	1, 5
MTL05	MTL-5	5	0.003 to 0.1	1, 5
MTL06	MTL-6	6	0.003 to 0.1	1, 5
MTL10	MTL-10	10	0.003 to 0.1	1, 5

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	MTL RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	See TCR vs. Resistance Value chart
Terminal Strength	lb	5 min (MTL1A) and 10 min (MTL2B and larger)
Dielectric Withstanding Voltage	$V_{AC}$	500 for MTL1A; 1000 for MTL2B and larger
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Operating Temperature Range	°C	-55 to +275
Insulation Resistance	$\Omega$	1000 M $\Omega$ min.

### GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: **MTL1A5L000FE66** (Visit [www.vishay.net](http://www.vishay.net) SAP Parts Manual for all options)

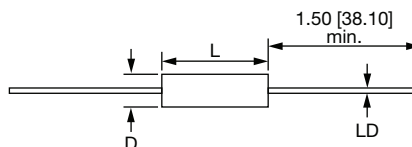
M	T	L	1	A	5	L	0	0	0	F	E	6	6			
GLOBAL MODEL (5 digits)					VALUE (5 digits)			TOLERANCE (1 digit)		PACKAGING CODE (3 digits)			SPECIAL (up to 3 digits)			
MTL1A MTL2B MTL03 MTL05 MTL06 MTL10					R = Decimal L = m $\Omega$ (below 0.01 $\Omega$ ) 5L000 = 0.005 $\Omega$ R1000 = 0.1 $\Omega$			F = $\pm 1\%$ J = $\pm 5\%$		E66 = Bulk pack			(Dash Number) From 1 to 999 as applicable			

Historical Part Number example: **MTL-1A-0.005-1 %**

MTL-1A	0.005 $\Omega$	1 %
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE



**DIMENSIONS** in inches [millimeters]



GLOBAL MODEL	DIMENSIONS in inches [millimeters]		
	L ± 0.020 [0.508]	D ± 0.020 [0.508]	LD ± 0.002 [0.051]
MTL1A	0.430 [10.92]	0.120 [3.05]	0.025 [0.635]
MTL2B	0.580 [14.73]	0.200 [5.08]	0.032 [0.813]
MTL03	0.600 [15.24]	0.250 [6.35]	0.032 [0.813]
MTL05	0.890 [22.61]	0.335 [8.51]	0.040 [1.02]
MTL06	1.055 [26.80]	0.395 [10.03]	0.040 [1.02]
MTL10	1.755 [44.58]	0.355 [9.02]	0.040 [1.02]

**MATERIAL SPECIFICATIONS**

**Element:** Nickel-chrome alloy

**Encapsulation:** Molded epoxy

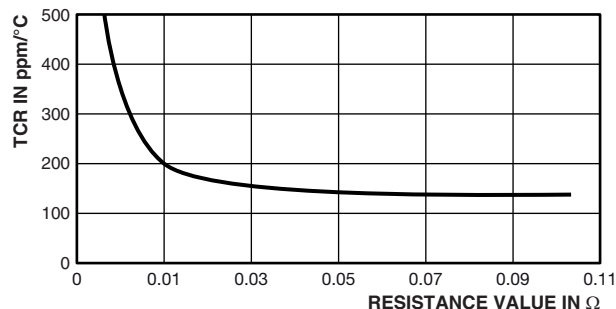
**Terminal:** Matte Tin

**Part Marking:** HEI, model, value, tolerance, date code

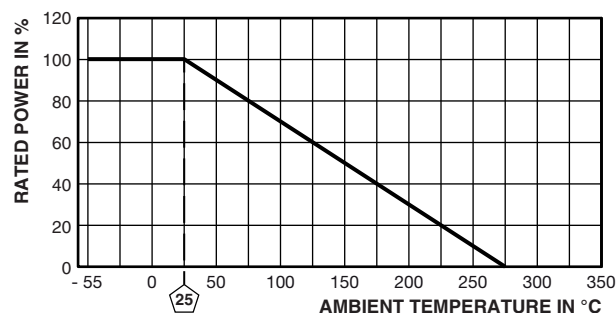
**Note**

- Due to resistor size limitations some resistors will have minimal information marked on parts.

**TCR VS. RESISTANCE VALUE**



**DERATING**



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Temperature Cycling	-40 °C for 30 min/+125 °C for 30 min/1000 h	± 1 % ΔR
Short Time Overload	5 x rated power for 5 s	± 1 % ΔR
Moisture Resistance	+40 °C 90 % to 95 % RH, 0.1 W <sub>DC</sub> , 1000 h	± 1 % ΔR
Load Life	1000 h at rated power, +70 °C, 1.5 h "ON", 0.5 h "OFF"	± 1 % ΔR



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