

## Wirewound Resistor, Ultra Precision, Epoxy Molded, Axial Lead


**FEATURES**

- Resistance values up to 6 MΩ
- Resistance tolerances down to ± 0.01 %
- Temperature coefficients down to 2 ppm/°C
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

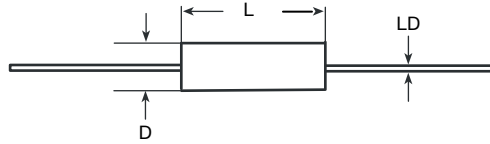


**RoHS**  
COMPLIANT  
**GREEN**  
(5-2008)

STANDARD ELECTRICAL SPECIFICATIONS				
GLOBAL MODEL	POWER RATING $P_{25^\circ\text{C}}$ W	TOLERANCE ± %	RESISTANCE RANGE Ω	MAXIMUM WORKING VOLTAGE V
MR9352	0.750	0.01, 0.02, 0.05, 0.1, 0.25, 0.5, 1	10 to 6.0M	600
MR9353	0.500	0.01, 0.02, 0.05, 0.1, 0.25, 0.5, 1	10 to 3.8M	400
MR9354	0.330	0.01, 0.02, 0.05, 0.1, 0.25, 0.5, 1	10 to 2.5M	400
MR9355	0.250	0.01, 0.02, 0.05, 0.1, 0.25, 0.5, 1	10 to 1.2M	300
MR9356	0.200	0.01, 0.02, 0.05, 0.1, 0.25, 0.5, 1	10 to 1.0M	200
MR9357	1.000	0.01, 0.02, 0.05, 0.1, 0.25, 0.5, 1	10 to 6.0M	800
MR9358	1.500	0.01, 0.02, 0.05, 0.1, 0.25, 0.5, 1	10 to 6.0M	900
MR9359	2.000	0.01, 0.02, 0.05, 0.1, 0.25, 0.5, 1	10 to 6.0M	1000

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	MR93 RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 10 > 100 Ω; ± 20 for 10 Ω to 100 Ω
Terminal Strength	lb	4.5
Dielectric Withstanding Voltage	$V_{AC}$	750
Operating Temperature Range	°C	- 55 to 145
Maximum Working Voltage	V	$(P \times R)^{1/2}$

GLOBAL PART NUMBER INFORMATION																	
Global Part Numbering example: <b>MR9355500K00AAE66</b> (visit <a href="http://www.vishay.net">www.vishay.net</a> SAP parts manual for all options)																	
<b>M</b>	<b>R</b>	<b>9</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>K</b>	<b>0</b>	<b>0</b>	<b>A</b>	<b>A</b>	<b>E</b>	<b>6</b>	<b>6</b>	
GLOBAL MODEL (6 digits)  (See Standard Electrical Specifications Global Model column for options)			VALUE (6 digits)  R = Decimal K = Thousand M = Million 15R000 = 15 Ω 1K5000 = 1.5 kΩ 1M0000 = 1 MΩ			TOLERANCE (1 digit)  T = ± 0.01 % Q = ± 0.02 % A = ± 0.05 % B = ± 0.1 % C = ± 0.25 % D = ± 0.5 % F = ± 1.0 %			TC (1 digits)  A = Standard, 10, 20 (W) B = 3900 (Q) C = 4500 (M) D = 6000 (N) G = 5 J = 2		PACKAGING CODE (3 digits)  E66 = Lead (Pb)-free bulk pack			SPECIAL (1 digits)  (Dash Number) From 1 to 9 as applicable			
Historical Part Number example: <b>MR9355W500K0A</b>																	
MR9355			W = STANDARD			500 kΩ			0.05 %								
HISTORICAL MODEL			TC			RESISTANCE VALUE			TOLERANCE								

**DIMENSIONS** in inches [millimeters]


GLOBAL MODEL	DIMENSIONS in inches [millimeters]		
	L ± 0.025 [0.635]	D ± 0.005 [0.127]	LD ± 0.002 [0.051]
MR9352	1.000 [25.40]	0.375 [9.52]	0.032 [0.813]
MR9353	0.750 [19.05]	0.375 [9.52]	0.032 [0.813]
MR9354	0.750 [19.05]	0.250 [6.35]	0.032 [0.813]
MR9355	0.500 [12.70]	0.250 [6.35]	0.032 [0.813]
MR9356	0.375 [9.52]	0.250 [6.35]	0.032 [0.813]
MR9357	1.000 [25.40]	0.500 [12.70]	0.032 [0.813]
MR9358	1.500 [38.10]	0.500 [12.70]	0.032 [0.813]
MR9359	2.000 [50.80]	0.500 [12.70]	0.032 [0.813]

**MATERIAL SPECIFICATIONS**

**Element:** Nickel-chrome alloy, other materials available depending on TC requirements

**Core:** Molded epoxy

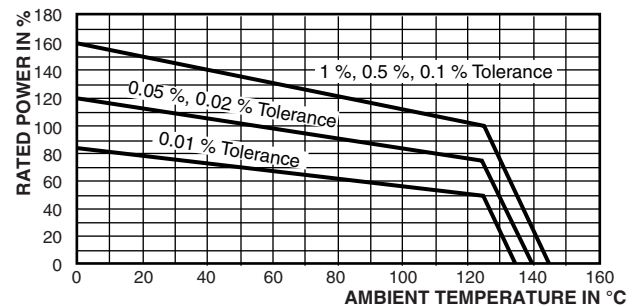
**Encapsulant:** Epoxy

**Standard Terminals:** 100 % matte tinned copper

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

**Note**

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

**DERATING**


PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Dielectric Withstanding Voltage	MIL-STD-202 Method 301, 750 V <sub>RMS</sub>	± (0.01 %) ΔR
High Frequency Vibration	MIL-STD-202 Method 204, condition D, frequency varied 10 Hz to 2000 Hz, 20 g peak	± (0.01 %) ΔR
High Temperature Exposure	MIL-STD-202 Method 108, 2000 h at 145 °C	± (0.01 %) ΔR
Load Life	MIL-STD-202 Method 108, 2000 h at 125 °C at rated power, 1.5 h "ON", 0.5 h "OFF"	± (0.1 % + 0.01 Ω) ΔR
Low Temperature Storage	- 65 °C for 24 h	± (0.01 %) ΔR
Moisture Resistance	MIL-STD 202 Method 106	± (0.01 %) ΔR
Shock, Specified Pulse	MIL-STD-202 Method 213, condition I, 5 shocks in 3 directions	± (0.01 %) ΔR
Thermal Shock	MIL-STD-202 Method 107, condition B	± (0.05 %) ΔR
Short Time Overload	2 x rated power for 10 min	± (0.01 %) ΔR
Terminal Strength	MIL-STD-202 Method 211, conditions A and D, 4.5 lb	± (0.01 %) ΔR



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