

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


**FEATURES**

- Resistance values up to 1 MΩ
- Resistance tolerances down to ± 0.005 %
- Tighter tolerances and lower resistance values available, please contact factory
- Temperature coefficients down to ± 2 ppm/°C, and up to 6000 ppm/°C
- Matched resistance sets available in tolerances down to ± 0.001 %, and in temperature coefficients down to ± 0.5 ppm/°C, please contact factory
- Custom design capability available, please contact factory
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



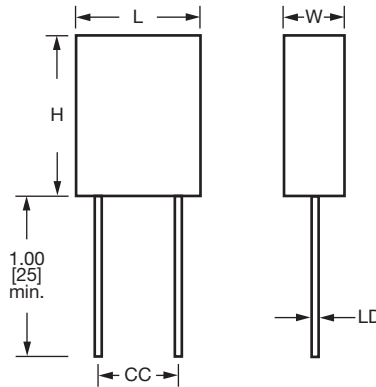
**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	POWER RATING W <sup>(1)</sup>	RESISTANCE RANGE Ω ± 0.1 %, ± 0.25 %, ± 0.5 %, ± 1 %	RESISTANCE RANGE Ω ± 0.05 %, ± 0.1 %, ± 0.25 %, ± 0.5 %, ± 1 %	RESISTANCE RANGE Ω ± 0.01 %, ± 0.05 %, ± 0.1 %, ± 0.25 %, ± 0.5 %, ± 1 %	RESISTANCE RANGE Ω ± 0.005 %, ± 0.01 %, ± 0.05 %, ± 0.1 %, ± 0.25 %, ± 0.5 %, ± 1 %	MAXIMUM WORKING VOLTAGE V <sup>(2)</sup>
MR702	0.125	1 to 500K	5 to 500K	50 to 500K	1K to 500K	150
MR703	0.250	1 to 750K	5 to 750K	50 to 750K	1K to 750K	150
MR705	0.300	1 to 500K	5 to 500K	50 to 500K	1K to 500K	150
MR706	0.500	1 to 1M	5 to 1M	50 to 1M	1K to 1M	150

**Notes**

- (1) Power rating is based on tolerance, please see derating chart.  
 (2) The maximum working voltage is the highest voltage that can be applied to the resistor. Below this value, the maximum voltage that can continuously be applied is given by  $(P \times R)^{1/2}$ .

GLOBAL PART NUMBER INFORMATION																	
Global Part Numbering example: <b>MR70233K330BAE66</b> (visit <a href="http://www.vishay.net">www.vishay.net</a> SAP parts manual for all options)																	
M	R	7	0	2	3	3	K	3	3	0	B	A	E	6	6		
GLOBAL MODEL (5 digits)				VALUE (6 digits)			TOLERANCE (1 digit)		TC (1 digit)		PACKAGING CODE (3 digits)			SPECIAL (up to 2 digits)			
MR702 MR703 MR705 MR706				R = decimal K = thousand M = million 1R5000 = 1.5 Ω 1K5000 = 1.5 kΩ 1M0000 = 1 MΩ			S = ± 0.005 % T = ± 0.01 % Q = ± 0.02 % A = ± 0.05 % B = ± 0.1 % C = ± 0.25 % D = ± 0.5 % F = ± 1.0 %		A = standard, 10 to 30 (W) B = 3900 (Q) C = 4500 (M) D = 6000 (N) E = 3500 (P) Y = 10 (≥ 1 Ω) G = 5 (≥ 10 Ω) J = 2 (≥ 100 Ω)		E66 = lead (Pb)-free bulk pack			(dash number) from 1 to 99 as applicable			
Historical Part Number example: <b>MR702W33K330B</b>																	
MR702				W = STANDARD				33.33 kΩ				0.1 %					
HISTORICAL MODEL				TC				RESISTANCE VALUE				TOLERANCE					

**DIMENSIONS** in inches [millimeters]


GLOBAL MODEL	DIMENSIONS in inches [millimeters]				
	$L \pm 0.010$ [0.254]	$H \pm 0.005$ [0.127]	$W \pm 0.010$ [0.254]	$LD \pm 0.002$ [0.051]	$CC \pm 0.015$ [0.381]
MR702	0.270 [6.86]	0.250 [6.35]	0.140 [3.56]	0.032 [0.813]	0.125 [3.18]
MR703	0.540 [13.72]	0.270 [6.86]	0.150 [3.81]	0.032 [0.813]	0.250 [6.35]
MR705	0.300 [7.62]	0.320 [8.13]	0.102 [2.59]	0.025 [0.635]	0.150 [3.81]
MR706	0.585 [14.86]	0.525 [13.34]	0.160 [4.06]	0.032 [0.813]	0.400 [10.16]

**MATERIAL SPECIFICATIONS**

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

**Core:** molded epoxy

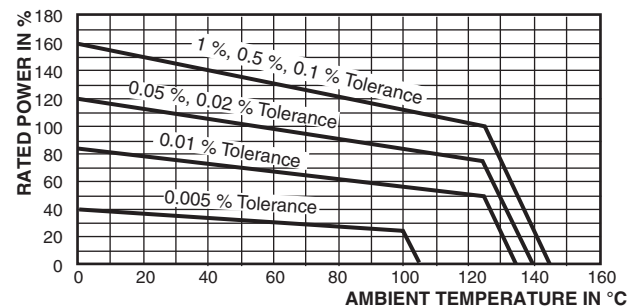
**Encapsulant:** epoxy

**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**


TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	MR700 RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	$\pm 10$ for $> 100 \Omega$ ; $\pm 20$ for $10 \Omega$ to $100 \Omega$ ; $\pm 30$ for $< 10 \Omega$
Terminal Strength	lb	4.5
Dielectric Withstanding Voltage	$V_{AC}$	750
Operating Temperature Range	°C	-55 to +145 (see derating chart)



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