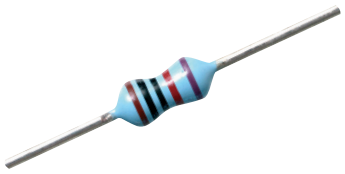
MRA Precision Metal Film Resistors

Europe's No 1 selling axial thin film high precision resistor. Stable films are sputtered on to high purity alumina rods, then covered in tough epoxy to protect from any environmental extremes

- Power dissipation up to 2W
- Value range from R1 to 10M
- Precision tolerance down to ±0.05%
- Low TCR ± 5ppm/°C
- RoHS Compliant

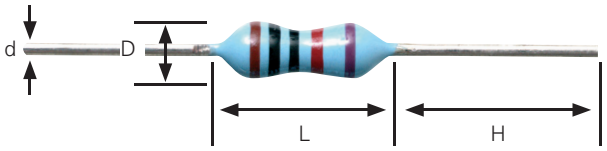


Characteristics

Tolerance (Code):	± 0.05%, ± 0.1% (B), ± 0.25 (C), ± 0.5% (D), ± 1% (F)
Operating temperature:	-55°C to +155°C
Temperature coefficient:	± 5ppm/°C , ± 10ppm/°C , ± 15ppm/°C, ± 25ppm/°C, ± 50ppm/°C, ± 100ppm/°C
Overload:	± 0.25% rated continuous working voltage =√(P*R)*2.5 for 5 seconds
Endurance:	±0.2%, 70±2˚C, rated continuous working voltage for 1000 hours with 1.5 hrs ON and 0.5 hrs OFF
Damp heat with load:	±0.3%, 40±2˚C, 90 - 95% RH, rated continuous working voltage for 1000 hours with 1.5 hrs ON and 0.5 hrs OFF
Solderability:	90% min coverage, 245±5˚C for 3 seconds
Temperature coefficient:	by type, resistance value 25˚C and 100˚C
Pulse overload:	±0.75%, 4 times rated continuous working voltage =√(P*R) for 10,000 cycles with 1 second ON and 25 seconds OFF
Terminal strength:	Tensile ≥2.5kg, direct load for 10 seconds in the direction of the terminal leads
Shelf life:	ΔR ±0.1%, 12 months at 25˚C±3˚C, 80% RH maximum

Dimensions (mm)

Type	L	D	H	d ±0.03
MRA0104	3.3 +0.7/-0.2	1.8 ±0.3	29 ±2.0	0.45
MRA0207	6.3 ±0.5	2.3 ±0.3	28 ±2.0	0.55
MRA0309	9.0 ±0.5	3.2 ±0.5	26 ±2.0	0.65
MRA0412	11.5 ±1.0	4.5 ±0.5	35 ±2.0	0.78
MRA0516	15.5 ±1.0	5.0 ±0.5	32 ±2.0	0.78

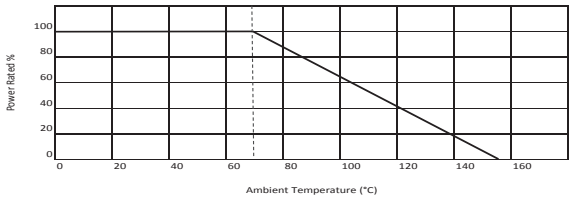


Ordering Procedure

Standard Resistor: Series, Resistance Value, Tolerance, TCR, Packaging (TA: Taped Ammo, TR: Taped Reel)

e.g.: MRA0104 10R B 15PPM TA

Derating Curve



For more information and ordering, please consult
www.arcolresistors.com

Electrical Specifications

Type	Wattage	Max. operating voltage	Resistance Range / Tolerance / TCR (ppm/°C)									
			±0.05%	TCR	±0.1%	TCR	±0.25%	TCR	±0.5%	TCR	±1%	TCR
MRA0104	1/8W	200V			10R - 1M	±15ppm ±25ppm ±50 ppm	10R - 1M	±15ppm ±25ppm ±50 ppm	10R - 4M99	±15ppm	10R - 4M99	±15ppm
							1R - 1M	±100ppm	10R - 10M	±25ppm ±50 ppm	10R - 10M	±25ppm ±50 ppm
									1R - 10M	±100ppm	R1 - 10M	±100ppm
MRA0207	1/4W	250V	10R - 1M	±5ppm ±10ppm ±15ppm ±25ppm	10R - 1M	±5ppm ±10ppm ±15ppm ±25ppm ±50ppm	10R - 1M	±5ppm ±10ppm ±15ppm ±25ppm ±50 ppm	10R - 1M	±5ppm ±10ppm	10R - 1M	±10ppm
							1R - 1M	±100ppm	10R - 10M	±15ppm ±25ppm ±50 ppm	10R - 10M	±15ppm ±25ppm ±50 ppm
									1R - 10M	±100ppm	R1 - 10M	±100ppm
MRA0309	1/2W	350V	10R - 1M	±5ppm ±10ppm ±15ppm ±25ppm	10R - 1M	±5ppm ±10ppm ±15ppm ±25ppm ±50ppm	10R - 1M	±5ppm ±10ppm ±15ppm ±25ppm ±50 ppm	10R - 1M	±5ppm ±10ppm	10R - 1M	±10ppm
							1R - 1M	±100ppm	10R - 10M	±15ppm ±25ppm ±50 ppm	10R - 10M	±15ppm ±25ppm ±50 ppm
									1R - 10M	±100ppm	R1 - 10M	±100ppm
MRA0412	1W	450V			10R - 1M	±15ppm ±25ppm ±50ppm	10R - 1M	±15ppm ±25ppm ±50ppm	10R - 4M99	±15ppm	10R - 4M99	±15ppm
							1R - 1M	±100ppm	10R - 10M	±25ppm ±50 ppm	10R - 10M	±25ppm ±50 ppm
									1R - 10M	±100ppm	R1 - 10M	±100ppm
MRA0516	2W	500V			10R - 1M	±15ppm ±25ppm ±50ppm	10R - 1M	±15ppm ±25ppm ±50ppm	10R - 4M99	±15ppm	10R - 4M99	±15ppm
							1R - 1M	±100ppm	10R - 10M	±25ppm ±50 ppm	10R - 10M	±25ppm ±50 ppm
									1R - 10M	±100ppm	R1 - 10M	±100ppm

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The information contained herein does not form part of a contract and is subject to change without notice. ARCOL operate a policy of continual product development, therefore, specifications may change.

It is the responsibility of the customer to ensure that the component selected from our range is suitable for the intended application. If in doubt please ask ARCOL.