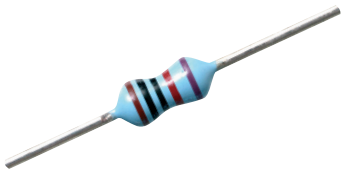
MRA Precision Metal Film Resistors

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

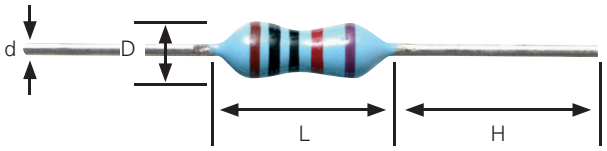


Characteristics

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

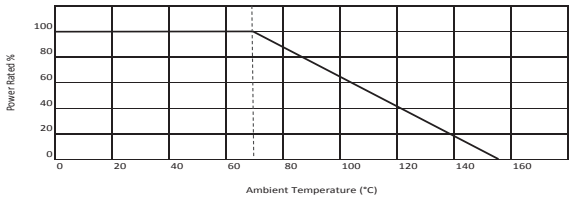


Ordering Procedure

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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