

Professional Leaded Resistors



DESCRIPTION

A homogeneous film of metal alloy is deposited on a high grade ceramic body. After a helical groove has been cut in the resistive layer, tinned connecting wires of electrolytic copper are welded to the end-caps. The resistors are coated with lacquer which provides electrical, mechanical, and climatic protection. Four or five colour code rings designate the resistance value and tolerance according to **IEC 60 062**. Suitable replacements for MRS16 and MRS25 are MBA/SMA 0204 and MBB/SMA 0207 professional.

FEATURES

- Professional resistors in small outlines
- Low noise
- Lead (Pb)-free solder contacts
- Pure tin plating provides compatibility with lead (Pb)-free and lead containing soldering processes
- Compatible with "Restriction of the use of Hazardous Substances" (RoHS) directive 2002/95/EC (issue 2004)

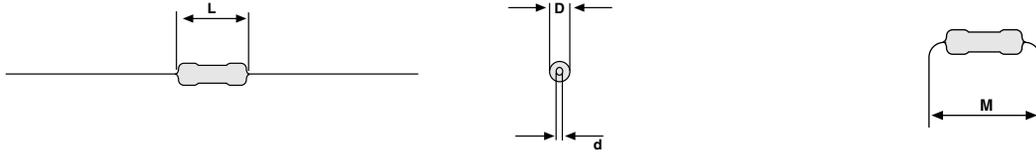


APPLICATIONS

- All general purpose applications.

TECHNICAL SPECIFICATIONS		
DESCRIPTION	VALUE	
	MRS16	MRS25
Resistance range	4.99 Ω to 1 M Ω	1 Ω to 10 M Ω
Resistance tolerance and series	$\pm 1 \%$; E24/E96 series	
Maximum dissipation at $T_{amb} = 70 \text{ }^\circ\text{C}$	0.4 W	0.6 W
Thermal resistance (R_{th})	170 K/W	150 K/W
Temperature coefficient	$\pm 50 \text{ ppm/K}$	
Maximum permissible voltage (DC or RMS)	200 V	350 V
Basic specifications	IEC 60 115-1 and 60 115-2	
Climatic category (IEC 60068)	55/155/56	
Max. resistance change for resistance range, ΔR max., after: load: $R \leq 100 \text{ k}\Omega$ $R > 100 \text{ k}\Omega$ climatic tests: $R \leq 100 \text{ k}\Omega$ $R > 100 \text{ k}\Omega$ soldering: $R \leq 100 \text{ k}\Omega$ $R > 100 \text{ k}\Omega$ short time overload	$\pm (0.5 \% R + 0.05 \Omega)$ $\pm (1 \% R + 0.05 \Omega)$ $\pm (0.5 \% R + 0.05 \Omega)$ $\pm (1 \% R + 0.05 \Omega)$ $\pm (0.1 \% R + 0.05 \Omega)$ $\pm (0.25 \% R + 0.05 \Omega)$ $\pm (0.25 \% R + 0.05 \Omega)$	$\pm (0.5 \% R + 0.05 \Omega)$ $\pm (0.5 \% R + 0.05 \Omega)$ $\pm (0.5 \% R + 0.05 \Omega)$ $\pm (0.5 \% R + 0.05 \Omega)$ $\pm (0.1 \% R + 0.05 \Omega)$ $\pm (0.1 \% R + 0.05 \Omega)$ $\pm (0.25 \% R + 0.05 \Omega)$

PACKAGING				
MODEL	REEL		BOX	
	PIECES/REEL	CODE	PIECES/BOX	CODE
MRS16	5000	RP	1000 5000	C1 CT
MRS25	5000	RP	1000 5000	C1 CT

DIMENSIONS


DIMENSIONS - leaded resistor types, mass and relevant physical dimensions					
TYPE	D _{max} (mm)	L _{max} (mm)	d _{nom} (mm)	M _{min} (mm)	MASS (mg)
MRS16	1.6	3.6	0.5	5.0	125
MRS25	2.5	6.3	0.6	10.0	220

12NC INFORMATION

- The resistors have a 12-digit numeric code starting with 2322 15.
- The subsequent 2 digits indicate the resistor type and packaging; see the 12NC Ordering Code table.
- The remaining 4 digits indicate the resistance value:
 - The first 3 digits indicate the resistance value.
 - The last digit indicates the resistance decade in accordance with the 12NC Indicating Resistance Decade table.

Last Digit of 12NC Indicating Resistance Decade

RESISTANCE DECADE	LAST DIGIT
1 Ω to 9.76 Ω	8
10 Ω to 97.6 Ω	9
100 Ω to 976 Ω	1
1 kΩ to 9.76 kΩ	2
10 kΩ to 97.6 kΩ	3
100 kΩ to 976 kΩ	4
1 MΩ to 9.76 MΩ	5
10 MΩ	6

12NC Example

The 12NC of a MRS16 resistor, value 750 Ω, on a bandolier of 1000 units in ammpack is: 2322 157 17501.

12NC - resistors type and packaging

TYPE	ORDERING CODE 2322 15.		
	BANDOLIER IN AMMPACK		BANDOLIER ON REEL
	1000 UNITS	5000 UNITS	5000 UNITS
MRS16	7 1....	7 2....	7 3....
MRS25	6 1....	6 2....	6 3....

PART NUMBER AND PRODUCT DESCRIPTION
PART NUMBER: MRS16000C5119FC T00

M	R	S	1	6	0	0	0	C	5	1	1	9	F	C	T	0	0
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MODEL/SIZE	SPECIAL CHARACTER	TCR	VALUE	TOLERANCE	PACKAGING	SPECIAL
MRS1600 MRS2500	0 = neutral	C = ± 50 ppm/K	3 digit value 1 digit multiplier MULTIPLIER 7 = *10 ⁻³ 2 = *10 ² 8 = *10 ⁻² 3 = *10 ³ 9 = *10 ⁻¹ 4 = *10 ⁴ 0 = *10 ⁰ 5 = *10 ⁵ 1 = *10 ¹ 6 = *10 ⁶	F = ± 1 %	RP CT C1	up to 2 digits 00 = standard

PRODUCT DESCRIPTION: MRS 16-50 1% CT 51R1

MRS16	50	1 %	CT	51R1
MODEL/SIZE	TCR	TOLERANCE	PACKAGING (1)	RESISTANCE VALUE
MRS16 MRS25	± 50 ppm/K	± 1 %	RP CT C1	51R1 = 51.1 Ω 1K = 1 kΩ

Note:

(1) Please refer packaging table.

The PART NUMBER is shown to facilitate the introduction of a unified part numbering system for ordering products.



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