

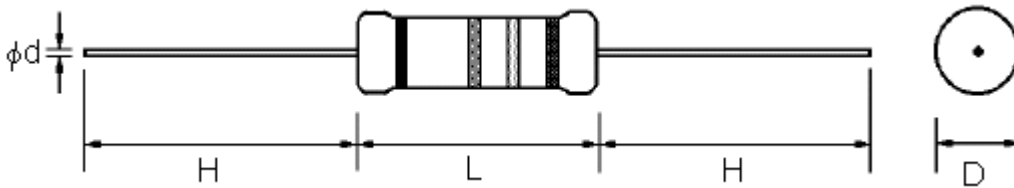
MCF Series Zero Ω

Carbon Film Resistors



Features:

- Automatically insertable.
- High quality performance.
- Non-flame type available.
- Cost effective and commonly used.
- Too low or too high values can be supplied on a case to case basis.
- Low resistance link in a standard resistor size.



Specifications:

| | |
|---------------------------------|--|
| Temperature coefficient | : +350PPM/°C for $\leq 10\Omega$ +450PPM/°C for $11\Omega - 99K\Omega$ $0 \sim -700PPM/°C$ for $100K\Omega \sim 1M\Omega$ $0 \sim -1500PPM/°C$ for $1.1M\Omega \sim 10M\Omega$. |
| Short-time overload | : $\Delta R/R \leq \pm(1.0\% + 0.05\Omega)$, with no evidence of mechanical damage. |
| Insulation resistance | : Dry : 10,000 Megaohm Wet : 100 Megaohm. |
| Dielectric withstanding voltage | : No evidence of flashover, mechanical damage, arcing or insulation breakdown. |
| Terminal strength | : No evidence of mechanical damage. |
| Resistance to soldering heat | : $\Delta R/R \leq \pm(1.0\% + 0.05\Omega)$, with no evidence of mechanical damage. |
| Minimum solderability | : 95% coverage. |
| Resistance to solvent | : No deterioration of protective coating and markings. |
| Temperature cycling | : $\Delta R/R \leq \pm(1.0\% + 0.05\Omega)$, with no evidence of mechanical damage. |
| Load life in humidity | : Normal type : $\Delta R/R \pm 3\%$ for $< 100K\Omega$, $\pm 5\%$ for $\geq 100K\Omega$ Non-flame type : $\Delta R/R \pm 5\%$ for $< 100K\Omega$, $\pm 10\%$ for $\geq 100K\Omega$. |
| Load life | : Normal type : $\Delta R/R \pm 2\%$ for $< 56K\Omega$, $\pm 3\%$ for $\geq 56K\Omega$ Non-flame type : $\Delta R/R \pm 5\%$ for $< 100K\Omega$, $\pm 10\%$ for $\geq 100K\Omega$. |
| Current rating | : 25A at 25°C derating 0A at 50°C. |

Specification Table

| Series | Power Rating at 70°C (W) | Dimension | | | | Maximum Working Voltage (V) | Maximum Overload Voltage (V) | Dielectric Withstanding Voltage (V) | Maximum Resistance |
|-------------------|--------------------------|----------------------|--------------------|---------------------|-------------------------------|-----------------------------|------------------------------|-------------------------------------|--------------------|
| | | Maximum Diameter (D) | Maximum Length (L) | Height (H ± 3) | Lead Diameter (d ± 0.05) | | | | |
| MCF Zero Ω | 1/4 (0.25) | 2.5 | 6.8 | 28.0 | 0.54 | 250 | 500 | 500 | 0.01 Ω |

Note: Standard E - 24 series values in $\pm 5\%$ tolerance.

Dimensions : Millimetres

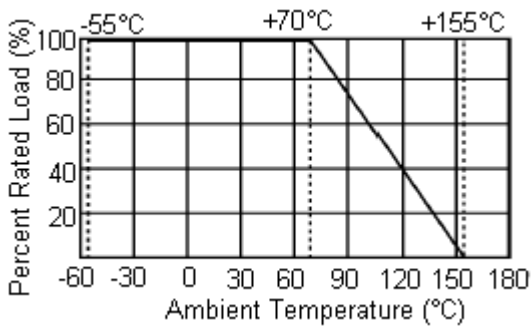


MCF Series Zero Ω

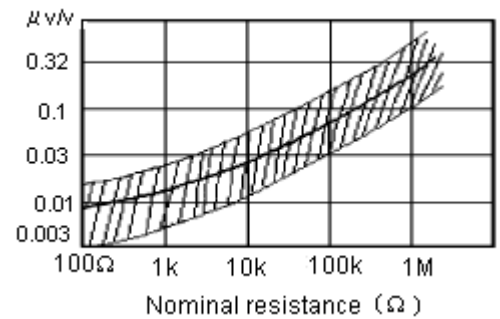
Carbon Film Resistors



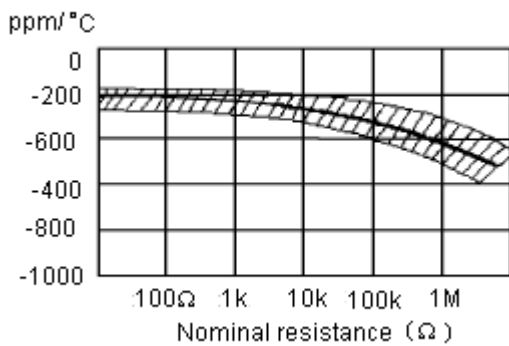
Derating curve



Current Noise



Temperature Coefficient



Part Number Explanation

| | | |
|-------------|---------------------------------|-------------|
| MCF | 0.25W | 0R |
| | | |
| Type | Wattage Rating | Ohmic Value |
| Ohmic Value | : Where R = Ohms = Ω | |
| | K = Kiloohms = $K\Omega$ | |
| | M = Megaohms = $M\Omega$ | |
| | And replaces the decimal point. | |
| | eg: 1R5 = 1.5Ω | |
| | 4K7 = $4.7K\Omega$ | |
| | 6M8 = $6.8M\Omega$. | |

Stocked Values

| Tolerance | Wattage (W) | Preferred Value Range | Range Value |
|-----------|-------------|-----------------------|-------------|
| 5% | 0.25 | E24 | 0R - 10M |



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Resistance Preferred Value Range

| E6 | E12 | E24 | E96 | E6 | E12 | E24 | E96 | E6 | E12 | E24 | E96 |
|----|-----|-----|------|----|-----|-----|------|----|-----|-----|------|
| 10 | 10 | 10 | 10.0 | | | | 21.5 | | | | 46.4 |
| | | | 10.2 | 22 | 22 | 22 | 22.1 | 47 | 47 | 47 | 47.5 |
| | | | 10.5 | | | | 22.6 | | | | 48.7 |
| | | | 10.7 | | | | 23.2 | | | | 49.9 |
| | | 11 | 11.0 | | | | 23.7 | | | 51 | 51.1 |
| | | | 11.3 | | | 24 | 24.3 | | | | 52.3 |
| | | | 11.5 | | | | 24.9 | | | | 53.6 |
| | | | 11.8 | | | | 25.5 | | | | 54.9 |
| | 12 | 12 | 12.1 | | | | 26.1 | | 56 | 56 | 56.2 |
| | | | 12.4 | | | | 27.7 | | | | 57.6 |
| | | | 12.7 | | 27 | 27 | 27.4 | | | | 59.0 |
| | | 13 | 13.0 | | | | 28.0 | | | | 60.4 |
| | | | 13.3 | | | | 28.7 | | | 62 | 61.9 |
| | | | 13.7 | | | | 29.4 | | | | 63.4 |
| | | | 14.0 | | | 30 | 30.1 | | | | 64.9 |
| | | | 14.3 | | | | 30.9 | | | | 66.5 |
| | | | 14.7 | | | | 31.6 | 68 | 68 | 68 | 68.1 |
| | 15 | 15 | 15.0 | | | | 32.4 | | | | 69.8 |
| | | | 15.4 | 33 | 33 | 33 | 33.2 | | | | 71.5 |
| | | | 15.8 | | | | 34.0 | | | | 73.2 |
| | | 16 | 16.2 | | | | 34.8 | | | 75 | 75.0 |
| | | | 16.5 | | | | 35.7 | | | | 76.8 |
| | | | 16.9 | | | 36 | 36.5 | | | | 78.7 |
| | | | 17.4 | | | | 37.4 | | | | 80.6 |
| | | | 17.8 | | | | 38.3 | | 82 | 82 | 82.5 |
| | 18 | 18 | 18.2 | | 39 | 39 | 39.2 | | | | 84.5 |
| | | | 18.7 | | | | 40.2 | | | | 86.6 |
| | | | 19.1 | | | | 41.2 | | | | 88.7 |
| | | | 19.6 | | | | 42.2 | | | 91 | 90.9 |
| | | 20 | 20.0 | | | 43 | 43.2 | | | | 93.1 |
| | | | 20.5 | | | | 44.2 | | | | 95.3 |
| | | | 21.0 | | | | 45.3 | | | | 97.6 |

Above values in accordance with IEC Publication 63 (1963) and BS2488



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Notes:

International Sales Offices:

| | | | |
|---|--|---|---|
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