

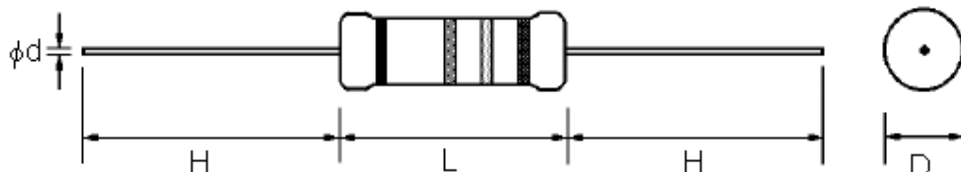
MCF 1W Series

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.



Performance Specifications:

Temperature coefficient	: $\pm 350\text{PPM}/^{\circ}\text{C}$ for $\leq 10\Omega$: $\pm 450\text{PPM}/^{\circ}\text{C}$ for $11\Omega - 99\text{K}\Omega$: $0 \sim -700\text{PPM}/^{\circ}\text{C}$ for $100\text{K}\Omega \sim 1\text{M}\Omega$: $0 \sim -1500\text{PPM}/^{\circ}\text{C}$ for $1.1\text{M}\Omega \sim 10\text{M}\Omega$.
Short-time overload	: $\Delta R/R \leq \pm(1.0\% + 0.05\Omega)$, with no evidence of mechanical damage.
Minimum insulation resistance	: 10,000 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 $< 100\text{K}\Omega$, $\pm 5\%$ for $\geq 100\text{K}\Omega$: Non-flame type : $\Delta R/R \pm 5\%$ for $< 100\text{K}\Omega$, $\pm 10\%$ for $\geq 100\text{K}\Omega$.
Load life	: Normal type : $\Delta R/R \pm 2\%$ for $< 56\text{K}\Omega$, $\pm 3\%$ for $\geq 56\text{K}\Omega$: Non-flame type : $\Delta R/R \pm 5\%$ for $< 100\text{K}\Omega$, $\pm 10\%$ for $\geq 100\text{K}\Omega$.
Operating temperature	: -55°C to $+155^{\circ}\text{C}$.

Specification Table

Series	Power Rating at 70°C (W)	Dimension				Maximum Working Voltage (V)	Maximum Overload Voltage (V)	Dielectric Withstanding Voltage (V)	Resistance Range
		Maximum Diameter (D)	Maximum Length (L)	Height (H ± 3)	Lead Diameter (d ± 0.05)				
MCF 1W	1	5.0	12.0	28.0	0.7	500	1000	1000	$1\Omega \sim 10\text{M}\Omega$

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

Dimensions : Millimetres

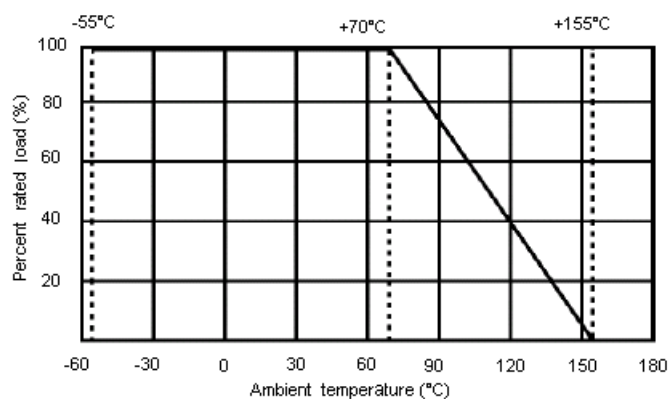


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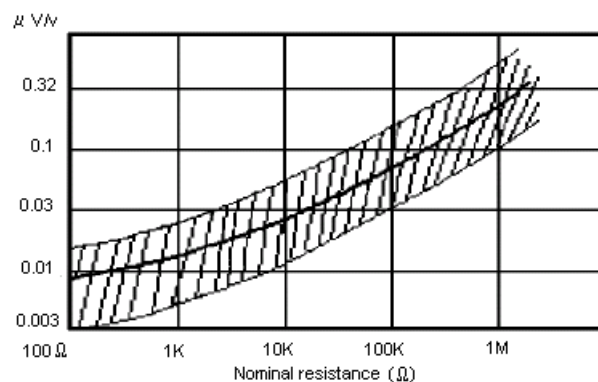
Carbon Film Resistors



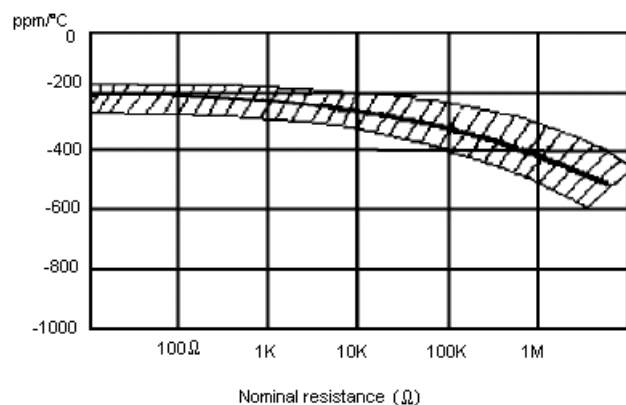
Derating Curve



Current Noise



Temperature Coefficient



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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	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	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	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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Part Number Explanation

MCF
Type

1W
Power Rating

10R
Ohmic Value

Ohmic Value

: Where R = Ohms = Ω

K = Kiloohms = $K\Omega$

M = Megahohms = $M\Omega$

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%	1	E24	1R - 10M



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Notes:

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