

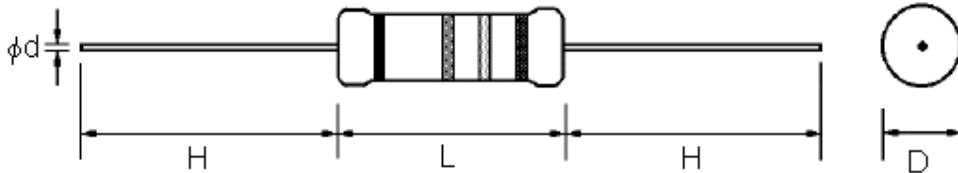
MCF 2W Series

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 2W	2	5.5	16	28	0.7	500	1000	1000	1 Ω ~ 10M Ω

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

Dimensions : Millimetres

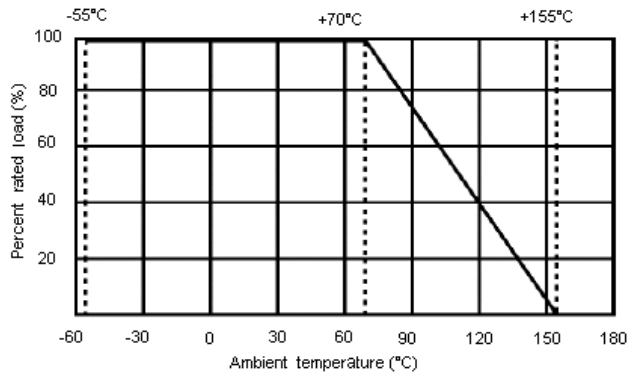


MCF 2W Series

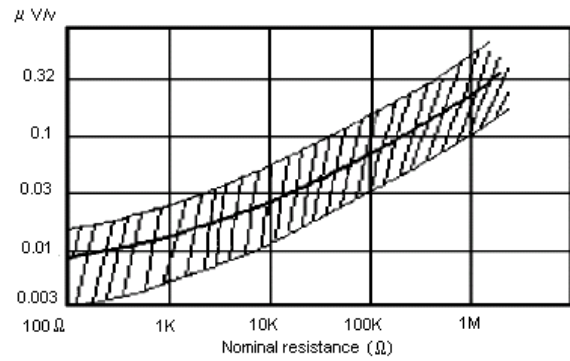
Carbon Film Resistors



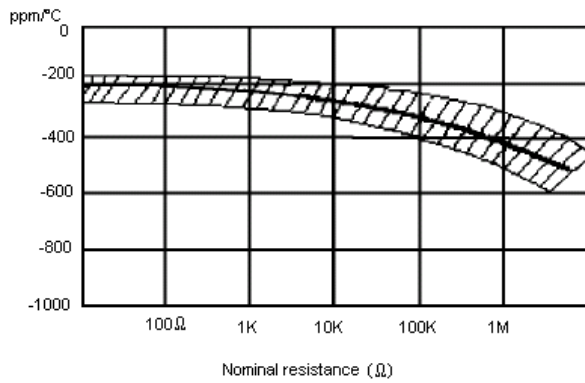
Derating Curve



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	56.2
			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
			15.0				32.4				69.8
15	15	15	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

Resistance Value	Part Number
10R	MCF 2W 10R
100R	MCF 2W 100R
1K	MCF 2W 1K
10K	MCF 2W 10K
100K	MCF 2W 100K
1M	MCF 2W 1M
15R	MCF 2W 15R
150R	MCF 2W 150R
1K5	MCF 2W 1K5
15K	MCF 2W 15K
150K	MCF 2W 150K
22R	MCF 2W 22R
220R	MCF 2W 220R
2K2	MCF 2W 2K2
22K	MCF 2W 22K
220K	MCF 2W 220K
33R	MCF 2W 33R
330R	MCF 2W 330R
3K3	MCF 2W 3K3
33K	MCF 2W 33K
330K	MCF 2W 330K
47R	MCF 2W 47R
470R	MCF 2W 470R
4K7	MCF 2W 4K7
47K	MCF 2W 47K
470K	MCF 2W 470K
68R	MCF 2W 68R
680R	MCF 2W 680R
6K8	MCF 2W 6K8
68K	MCF 2W 68K
680K	MCF 2W 680K



MCF 2W Series

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Part Number Explanation

MCF

Type

2W

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%	2	E24	1R - 10M



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Notes:

International Sales Offices:

 AUSTRALIA – Farnell InOne Tel No: ++ 61 2 9645 8888 Fax No: ++ 61 2 9644 7898	 FINLAND – Farnell InOne Tel No: ++ 358 9 560 7780 Fax No: ++ 358 9 345 5411	 NETHERLANDS – Farnell InOne Tel No: ++ 31 30 241 7373 Fax No: ++ 31 30 241 7333	 SWITZERLAND – Farnell InOne Tel No: ++ 41 1 204 64 64 Fax No: ++ 41 1 204 64 54
 AUSTRIA – Farnell InOne Tel No: ++ 43 662 2180 680 Fax No: ++ 43 662 2180 670	 FRANCE – Farnell InOne Tel No: ++ 33 474 68 99 99 Fax No: ++ 33 474 68 99 90	 NEW ZEALAND – Farnell InOne Tel No: ++ 64 9 357 0646 Fax No: ++ 64 9 357 0656	 UK – Farnell InOne Tel No: ++ 44 8701 200 200 Fax No: ++ 44 8701 200 201
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 ESTONIA – Farnell InOne Tel No: ++ 358 9 560 7780 Fax No: ++ 358 9 345 5411	 MALAYSIA – Farnell-Newark InOne Tel No: ++ 60 3 7873 8000 Fax No: ++ 60 3 7873 7000	 SWEDEN – Farnell InOne Tel No: ++ 46 8 730 50 00 Fax No: ++ 46 8 83 52 62	

For enquiries from all other markets

<http://www.farnellinone.com>

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<http://www.cpc.co.uk>

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