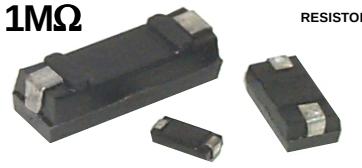
SM POWER RESISTORS, 1/2W - 5W, .0005Ω - 1MΩ
WIREWOUND, FILM, & METAL PLATE

MWM SERIES

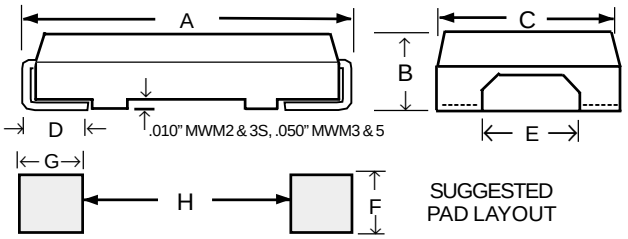
RoHS Term.W is RoHS compliant & 260°C compatible



- ❒ Widest selection in the industry!
- ❒ Tolerance to ±0.01%, T.C. to ±5ppm/°C
- ❒ Available on exclusive ***SWIFT***™ delivery program!

OPTIONS

- ❒ Option X: Non-inductive (refer to application note below)
- ❒ Option P: Increased Pulse Capability
- ❒ Option M: Power metal film element
- ❒ Option L: Low profile non-inductive metal plate design
- ❒ Option E: Low thermal EMF design
- ❒ Special marking, high current, flame retardant, fusible, temp.sensitive, hi-rel screening/burn-in, fusible, SnPb, etc.



SUGGESTED PAD LAYOUT

Exceptional perfomance and reliability is achieved via highest grade materials and processing. An all-welded wirewound construction is standard, featuring premium-grade wire for superior stability and surge capability. Opt. L low profile models feature a non-inductive metal plate element. The power film version (Opt.M) achieves values as high as 1MΩ and is inherently low inductance thereby enabling stable operation at high frequencies.

PERFORMANCE (Typ)	WW & Opt. L Metal Plate		Opt. M Film Element	
Load Life (1000 hrs)	±1% (MWM2S,3S,27=2%)		±1%	
Moisture Resistance	±0.25%		0.5%	
Temperature Cycling	±0.2%		0.5%	
Short Time Overload	5 x rated W for 5 Sec		5 x rated W for .5 Sec	
Temp. Coefficient	Standard	Optional	Standard	Optional
R0005-R024	400ppm	100, 200	n/a	n/a
R025-R049	300ppm	100, 200	n/a	n/a
R050-R099	200ppm	50, 100	n/a	n/a
R100-R990	90ppm	20,30,50	350ppm	200
1R00-9R90	50ppm	10,20,30	200ppm	100
10R0 & above	30ppm	5,10,20	100ppm	25,50
Dielectric Strength [1]	500V Min.[1], 1KV avail.		500V Min. (1KV avail.)	
Solderability [2]	95% coverage		95% coverage	
Operating Temp.	-55 to +175°C(+275° avail)		-55°C to +175°C	
Available Resis. Tol.	0.01% to 10%		0.5% to 5%	

[1] Dielectric strength for low profile Opt. L is 100V (300V avail) [2] Tested within .032" [.8mm] of pcb surface

RCD TYPE	Wattage Rating	Max Voltage* [Current]	Std Resis Range	Opt M Resis Range	Opt M Max. Voltage	DIMENSIONS Inch [mm]							
						A	B (Max)	C	D (Min)	E	F	G	H
MWM1/2	0.5W	33V [10A]	.01Ω - 2K	5Ω - 1M	200V*	.204±.02 [5.2 ±.5]	.111 [2.82]	.125±.01 [3.2±.25]	.025 [.63]	.045±.015 [1.14±.4]	.080 [2.0]	.100 [2.5]	.08 [2]
MWM1	1W	58V [20A]	.001Ω-10K	.1Ω - 1M	200V*	.258±.02 [6.55±.5]	.125 [3.17]	.150±.015 [3.8±.4]	.032 [0.8]	.060±.015 [1.50±.4]	.100 [2.5]	.125 [3.2]	.12 [3]
MWM2	2W	120V [30A]	.002Ω-25K	.1Ω - 1M	250V*	.449±.032 [11.4±.8]	.208 [5.28]	.225±.015 [5.7±.4]	.060 [1.5]	.070±.020 [1.78±.5]	.160 [4.0]	.157 [4.0]	.20 [5]
MWM2S	2W	80V [25A]	.1Ω- 200Ω	1Ω - 1M	250V*	.297 ±.020 [7.5 ±.5]	.165 [4.19]	.150±.015 [3.8±.4]	.044 [1.1]	.050±.016 [1.27±.4]	.100 [2.5]	.125 [3.2]	.14 [3.6]
MWM27	2.7W	180V [30A]	.005Ω -20K	1Ω - 1M	250V*	.480±.032 [12.2±.8]	.230 [5.84]	.228±.016 [5.8±.4]	.05 [1.27]	.070±.020 [1.78±.5]	.160 [4.0]	.18 [4.57]	.20 [5]
MWM3S	3W	200V [30A]	.005Ω -25K	1Ω - 1M	300V*	.625±.032 [15.9±.8]	.270 [6.86]	.275±.015 [7±.38]	.05 [1.27]	.085±.016 [2.16±.4]	.160 [4.0]	.175 [4.5]	.40 [10]
MWM3	3.5W	250V [30A]	.005Ω -50K	1Ω - 1M	350V*	.811±.020 [20.6±.5]	.295 [7.49]	.273±.02 [6.9 ±.5]	.063 [1.6]	.102±.028 [2.6 ± .7]	.200 [5.0]	.200 [5.0]	.60 [15]
MWM5	5W	300V [32A]	.005Ω-100K	n/a	n/a	.811±.020 [20.6±.5]	.295 [7.49]	.273±.02 [6.9± .5]	.063 [1.6]	.102±.028 [2.6 ± .7]	.250 [6.4]	.250 [6.4]	.60 [15]
LOW PROFILE METAL PLATE MODELS													
MWM1/2L	0.5W	√(PR) [12A]	.003Ω-.05Ω	n/a	n/a	.200 ±.012 [5.1 ±.3]	.053 [1.35]	.100±.01 [2.54±.25]	.025 [.63]	.060 [1.5] min	.080 [2.0]	.100 [2.5]	.08 [2]
MWM1L	1W	√(PR) [25A]	.001Ω-0.1Ω	n/a	n/a	.250 ±.012 [6.3 ±.3]	.057 [1.45]	.126 ±.012 [3.2 ±.3]	.025 [.63]	.070 [1.8] min	.150 [3.8]	.125 [3.2]	.120 [3]
MWM2L	2W	√(PR) [30A]	.002Ω-0.2Ω	n/a	n/a	.330±.012 [8.38±.3]	.057 [1.45]	.157 ±.012 [4.0 ±.3]	.032 [0.8]	.100 [2.5] min	.197 [5.0]	.157 [4.0]	.157 [4]
MWM2LS	2W	√(PR) [45A]	.0005 -.005Ω	n/a	n/a	.250 ±.012 [6.3 ±.3]	.079 [2.0]	.126 ±.012 [3.2 ±.3]	.032 [0.8]	.080[.20] min	.150[3.8]	.125[3.2]	.120[.3]

*Voltage determined by E = $\sqrt{PR}$, E not to exceed maximum voltage rating. Increased ratings available. Multiply by 0.7 for Opt. X

APPLICATION NOTES:

1. **Power Rating**: Resistors may be operated up to full rated power with consideration of mounting density, pad & trace geometery, PCB material, and ambient temperature. Standard parts should be derated (W&V) by .67%/°C when ambient exceeds 25°C, low profile parts by 1%/ °C above 70 °C

2. **Inductance**: Standard wound parts are 1 - 20uH typ. For "non-inductive" design, specify Opt.X (0.2uH max ≤50Ω, .37uH >50Ω, 50nH avail). Opt. L (metal plate element) and Opt.M (power film element) are inherently low inductance (1 to 10nH typ). Consult factory for assistance.

3. **Pulse Capability**: standard MWM (wirewound) and Opt. L (metal plate) offer excellent overload capability greatly exceeding that of film resistors. The overload level can often be economically enhanced by a factor of 50% or more via special processing (Opt.P). Pulse capability is highly dependent on size & resistance (available up to 50 joules). Consult factory for assistance.

P/N DESIGNATION:

MWM2 ☐ - **1001** - **F** **T** ☐ **W**

RCD Type

Options: X,P,M,L,F,E (leave blank if std)

Resis.Code .01%-1%: 3 signif. figures & multiplier,
e.g. R010=0.01Ω, R100=0.1Ω, 1R00=1Ω, 1000=100Ω, 1001=1K.
Resis.Code 2%-10%: 2 signif. figures & multiplier, R01=0.01Ω, R10=0.1Ω, 1R0=1Ω, 100=10Ω, 101=100Ω, 102=1K.
Use extra digits as needed: R005, R0075, R012, etc.

Tolerance Code: K=10%, J=5%, H=3%, G=2%, F=1%, D=0.5%, C=0.25%, B=0.1%, A=0.05%, Q=0.02%, T=0.01%

Packaging: B = Bulk, T = Tape & Reel

TC (leave blank if standard): 5 = 5ppm, 10 = 10ppm, 20=20ppm, 30=30ppm,50=50ppm, 101=100ppm, 201=200ppm, 301=300ppm

Termination: W= Lead-free, Q= Tin/Lead. Leave blank if either is acceptable (RCD will select based on lowest price and quickest delivery).

RCD Components Inc, 520 E. Industrial Park Dr, Manchester, NH, USA 03109 rcdcomponents.com Tel: 603-669-0054 Fax: 603-669-5455 Email:sales@rcdcomponents.com