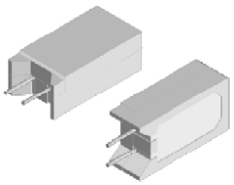
Wirewound Resistors, Commercial Power, Vertical Mount



Please reference the Vishay Dale closest equivalent:

- **CPCL, CPCC, CPCP, CPCF (www.vishay.com/doc?30218)**
- **CPCC, CPCF High Volume (www.vishay.com/doc?30116)**

Notes

- There may be slight differences between the MRWxR product and the applicable replacement.
- See the cross-reference file for a complete list of differences and part number crosses: www.vishay.net/files/Cross-Reference%20Data%20-%20PTN-DR-022-2015%20Rev%200.pdf.

FEATURES

- Board space saving due to vertical design
- Meets or exceeds requirements of EIA standard RS-344
- High power to size ratio
- Special inorganic potting compound and ceramic case provide high thermal conductivity in a fireproof package
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free
e3
RoHS COMPLIANT
HALOGEN FREE
GREEN (5-2008)

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{70\,°C}$ W	TOLERANCE ± %	RESISTANCE RANGE Ω	WEIGHT (typical) g
MRW2R	MRW2R	2	5, 10	0.1 to 500	3.5
MRW3R	MRW3R	3	5, 10	0.1 to 500	5.5
MRW5R	MRW5R	5	5, 10	0.01 to 500	6.9
MRW1R	MRW10R	10	5, 10	0.01 to 8K	14.3

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	MRWxR RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 300 = 1.0 Ω and above, ± 600 = 0.1 Ω to 0.99 Ω, ± 100 = 0.05 Ω to 0.09 Ω, ± 400 = 0.01 Ω to 0.049 Ω
Short Time Overload	-	5 x rated power for 5 s
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Operating Temperature Range	°C	-65 to +275
Terminal Strength	lb	10 minimum
Dielectric Withstanding Voltage	V_{AC}	1000

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: MRW1RR5000JE32 (Visit www.vishay.net SAP Parts Manual for all options)

M	R	W	1	R	R	5	0	0	0	J	E	3	2			

GLOBAL MODEL (5 digits)	VALUE (5 digits)	TOLERANCE (1 digit)	PACKAGING CODE (3 digits)	SPECIAL (up to 3 digits)
MRW2R **MRW3R** **MRW5R** **MRW1R**	**R** = Decimal **K** = Thousand **15R00** = 15 Ω **1K500** = 1.5 kΩ	**J** = ± 5 % **K** = ± 10 %	**E01** = Lead (Pb)-free skin pack **E32** = Lead (Pb)-free two layer bulk pack	(Dash Number) From **1** to **999** as applicable **NI** = Non-inductive

Historical Part Number example: MRW10RWR50J

MRW10R	W = STANDARD	0.5 Ω	5 %
HISTORICAL MODEL	TC	RESISTANCE VALUE	TOLERANCE

For technical questions, contact: ww2aresistors@vishay.com

DIMENSIONS in inches [millimeters]

GLOBAL MODEL	DIMENSIONS in inches [millimeters]				
	H ± 0.031 [0.794]	L ± 0.031 [0.794]	W + 0.043 [1.09] - 0.012 [0.305]	LD ± 0.005 [0.127]	CC ± 0.040 [1.02]
MRW2R	0.807 [20.50]	0.433 [11.00]	0.276 [7.01]	0.032 [0.813]	0.197 [5.00]
MRW3R	0.984 [24.99]	0.472 [11.99]	0.315 [8.00]	0.032 [0.813]	0.197 [5.00]
MRW5R	1.003 [25.48]	0.512 [13.00]	0.354 [8.99]	0.032 [0.813]	0.197 [5.00]
MRW1R	1.372 [34.85]	0.633 [16.08]	0.485 [12.32]	0.036 [0.914]	0.290 [7.37]

MATERIAL SPECIFICATIONS

Element: copper-nickel alloy or nickel-chrome alloy, depending on resistance value

Core: woven fiberglass, alumina ceramic, or self supporting element - depending on resistance value

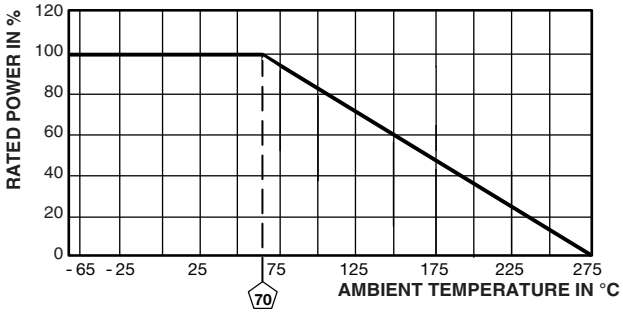
Body: steatite ceramic case with inorganic potting compound

End Caps: tin plated steel (as applicable)

Terminals: tinned copper

Part Marking: MILLS, model, wattage, value, tolerance, date code

DERATING



PERFORMANCE		
TEST	**CONDITIONS OF TEST**	**TEST LIMITS**
Thermal Shock	-55 °C to +275 °C	± (5.0 % + 0.05 Ω) Δ*R*
Short Time Overload	5 x rated power for 5 s	± (4.0 % + 0.05 Ω) Δ*R*
Dielectric Withstanding Voltage	1000 V_{RMS} for 1 min	± (2.0 % + 0.05 Ω) Δ*R*
Low Temperature Storage	-65 °C, full rated working voltage for 45 min	± (3.0 % + 0.05 Ω) Δ*R*
Bias Humidity	75 °C, 90 % to 100 % RH, 240 h	± (5.0 % + 0.05 Ω) Δ*R*
Load Life	1000 h at rated power, +40 °C, 1.5 h “ON”, 0.5 h “OFF”	± (5.0 % + 0.05 Ω) Δ*R*
Terminal Strength	5 s to 10 s 10 pound pull test	± (1.0 % + 0.05 Ω) Δ*R*
Resistance to Solder Heat	Terminal immersed 3.5 s in molten solder up to body	± (4.0 % + 0.05 Ω) Δ*R*

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