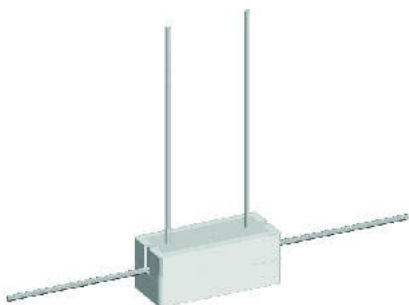




Wirewound Resistors, Commercial Power, Four Terminals, Low Value



Please reference the Vishay Dale closest equivalent:
CPSL (www.vishay.com/doc?30217).

Notes

- There may be slight differences between the MRWL product and the CPSL product.
- 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.

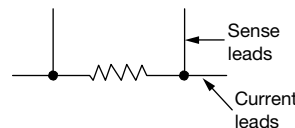
FEATURES

- Low inductance
- Extremely low resistance values
- Current sensing
- Low temperature coefficients
- High power to size ratio
- Superior surge capability
- Complete welded construction
- 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



RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

SCHEMATIC



STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING $P_{40^{\circ}\text{C}}$ W	RESISTANCE RANGE Ω	TOLERANCE $\pm \%$	WEIGHT (typical) g
MRWL05	5	0.01 to 0.10	5, 10	5.2
MRWL10	10	0.01 to 0.10	5, 10	10.2

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	MRWL RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/ $^{\circ}\text{C}$	± 100 maximum
Short Time Overload	-	5 x rated power for 5 s
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Operating Temperature Range	$^{\circ}\text{C}$	-65 to +275
Terminal Strength	lb	10 minimum
Dielectric Withstanding Voltage	V_{AC}	1000

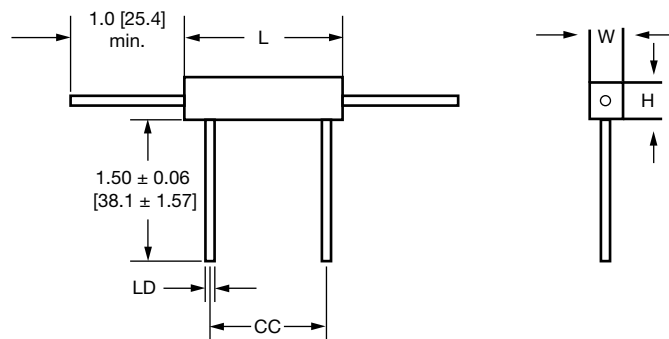
GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: MRWL05R0150JE14 (Visit www.vishay.net SAP Parts Manual for all options)

M	R	W	L	0	5	R	0	1	5	0	J	E	1	4		
GLOBAL MODEL (6 digits)						VALUE (5 digits)			TOLERANCE (1 digit)			PACKAGING CODE (3 digits)			SPECIAL (up to 2 digits)	
MRWL05						R = Decimal R0150 = 0.015 Ω			J = $\pm 5 \%$ K = $\pm 10 \%$			E14 = Lead (Pb)-free bulk pack E31 = Lead (Pb)-free four layer bulk pack			(Dash Number) From 1 to 99 as applicable	

Historical Part Number example: MRWL05WR015J

MRWL05	W = STANDARD	0.015 Ω	5 %
HISTORICAL MODEL	TC	RESISTANCE VALUE	TOLERANCE

**DIMENSIONS** in inches [millimeters]

GLOBAL MODEL	DIMENSIONS in inches [millimeters]				
	L ⁽¹⁾ ± 0.031 [0.794]	W ± 0.031 [0.794]	H ± 0.031 [0.794]	LD ± 0.001 [0.025]	CC ± 0.063 [1.59]
MRWL05	0.875 [22.22]	0.375 [9.52]	0.344 [8.73]	0.036 [0.914]	0.563 [14.30]
MRWL10	1.875 [47.62]	0.375 [9.52]	0.344 [8.73]	0.036 [0.914]	1.375 [34.93]

Note

(1) Potting compound may extend outside of ceramic case up to 0.060 [1.52] maximum per side.

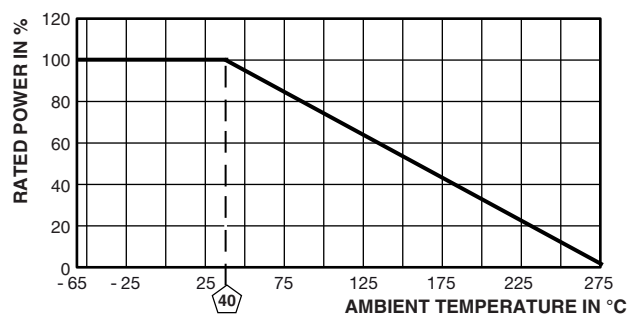
MATERIAL SPECIFICATIONS

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

Body: steatite ceramic case with inorganic potting compound

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 cycles, 30 min dwell time	± (5.0 % + 0.05 Ω) ΔR
Short Time Overload	5 x rated power for 5 s	± (4.0 % + 0.05 Ω) ΔR
Dielectric Withstanding Voltage	1000 V _{RMS} for 1 min	± (2.0 % + 0.05 Ω) ΔR
Low Temperature Operation	-65 °C, full rated working voltage for 45 min	± (3.0 % + 0.05 Ω) ΔR
Bias Humidity	75 °C, 90 % to 100 % RH, 240 h	± (5.0 % + 0.05 Ω) ΔR
Load Life	1000 h at rated power, +40 °C, 1.5 h "ON", 0.5 h "OFF"	± (5.0 % + 0.05 Ω) ΔR
Terminal Strength	5 s to 10 s 10 pound pull test, torsion test - 3 alternating directions, 360° each	± (1.0 % + 0.05 Ω) ΔR
Resistance to Solder Heat	Terminal immersed 3.5 s in molten solder at 1/8" to 3/16" from body	± (1.0 % + 0.05 Ω) ΔR



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