

## Wirewound Resistors, Industrial Power, Tubular, Metal Case, MCRL


**FEATURES**

- High power to size ratio
- Flameproof inorganic compound
- All welded construction
- Heat sink mountable to steel panel at least 10" x 10" x 0.04" (254 mm x 254 mm x 1.02 mm)
- Heat transfer increased by use of thermally conductive grease or epoxy
- Wirewound
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING WITH HEAT SINK W	POWER RATING WITHOUT HEAT SINK W	RESISTANCE RANGE $\Omega$	TOLERANCE $\pm$ %	TERMINAL STYLE
MCRL0045	12M16	45	20	1.1 to 2750	5, 10	A
MCRL0070	12M40	70	40	0.2 to 22K	5, 10	H
MCRL0100	12M59	100	50	0.2 to 66K	5, 10	H
MCRL0125	12M89	125	65	0.25 to 76K	5, 10	H

DIMENSIONS in inches (millimeters)						
GLOBAL MODEL	A	B	C	D DISTANCE BETWEEN TERMINAL (REF.)		WEIGHT (TYP.) g
MCRL0045	1 (25.4)	1.438 (36.513)	1.875 (47.625)	5/16	0.312	33
MCRL0070	2.5 (63.5)	3 (76.2)	3.375 (85.725)	1 1/4	1.25	77
MCRL0100	3.688 (93.675)	4.125 (104.775)	4.563 (115.90)	2 7/16	2.44	108
MCRL0125	5.562 (141.275)	6 (152.4)	6.438 (163.525)	4 1/8	4.12	185

TERMINAL STYLE in inches (millimeters)		
DIMENSIONS	A (3/16" LUG)	H (1/4" SQC)
Width (A)	0.1875 (4.7625)	0.25 (6.35)
Height (B)	0.375 (9.525)	0.625 (15.875)
Diameter (C)	0.13 (3.302)	0.065 (1.651)
Thickness (D)	0.02 (0.508)	0.032 (0.8128)



TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Power rating	W	20 to 125
Resistance range	$\Omega$	0.2 to 76K
Resistance tolerance	%	5 for above 1 $\Omega$ , 10 for below 1 $\Omega$
TCR	ppm/ $^{\circ}$ C	$\pm 400, \pm 180, \pm 130, \pm 20$ (varies by wattage and resistance)
Operating temperature	$^{\circ}$ C	-40 to +300
Temperature rise	$^{\circ}$ C	275 above an ambient of 25 $^{\circ}$ C
Maximum altitude	f.a.s.l. (m.a.s.l.)	derate above 4921 f.a.s.l. (1500 m.a.s.l.)
Short-term overload (surge)		10 x rated power for 5 s
Surge windings		available
Maximum working voltage		$(P \times R)^{1/2}$
Insulation resistance	$\Omega$	1M
Dielectric voltage	V <sub>RMS</sub>	up to 1500 (upon request)
Creepage	inch (mm)	0.50 (12.7) typical
Terminal sleeves		available for all sizes, increases creepage distance for 600 V applications
Inductance	$\mu$ H	0.2 to 800 (varies by wattage and resistance)
Non-inductive winding		available
Terminal strength	lb	n/a
Electrical or mechanical customization		available: <a href="http://www.vishay.com/doc?31859">www.vishay.com/doc?31859</a>



MATERIAL SPECIFICATIONS	
Element	copper-nickel, nickel-chrome, iron-chrome-aluminum
Core	electrical porcelain
Potting compound	electrical cement or special high temperature silicone
Standard terminals	stainless steel
Part marking	value, date code, MRC



GLOBAL PART NUMBER INFORMATION																	
Global Part Numbering example: MCRL007022K00JHB00 (MCRL0070 22K 5 % 1/4SQC B)																	
M	C	R	L	0	0	7	0	2	2	K	0	0	J	H	B	0	0
MODEL (3 digits)	TYPE (1 digit)	SIZE (4 digits)	VALUE (5 digits)	TOLERANCE (1 digit)	TERMINAL (1 digit)	PACKAGING (1 digit)	SPECIAL (2 digits)										
<b>MCR</b>	<b>L</b> = Cement	<b>0045</b> = 45 W <b>0100</b> = 100 W  Available sizes: 0045 0070 0100 0125	<b>R</b> = Decimal <b>K</b> = Thousand <b>R1500</b> = 0.15 Ω <b>1K500</b> = 1.5 kΩ  Check datasheet for available value range	<b>J</b> = ± 5.0 % <b>K</b> = ± 10 %	<b>A</b> = 3/16" lug (3/16L) <b>B</b> = A extended length (3/16XL) <b>H</b> = 1/4" single quick-connect (1/4SQC)	<b>B</b> = Bulk	<b>00</b> = Standard <b>NI</b> = Non-inductive <b>SW</b> = Surge winding										



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