DRC-V Series
Radial Coil Inductors

The DRC-V Series is Signal's new line of unshielded radial leaded drum core inductors (also known as bobbin core inductors). These through hole mount components are commonly used for general purpose filtering of high frequency signals and mitigating EMI/RFI. They frequently make their appearance in a wide variety of applications for consumer, industrial and medical products to name a few.

Utilizing the latest winding technology, copper windings and ferrite cores, Signal's DRC-V Series addresses the needs of modern filtering applications by providing the most effective electrical noise suppression via a combination of high impedance large inductance and elevated current capacity.

General Features

- Shrink Tubing Protected Winding
- Pre-Tinned Leads
- Fixed Lead Spacing
- Ferrite Core Material
- Enameled Copper Wire
- Large Energy Storage
- High Saturation Capacity
- High Peak Current Support
- Smallest DC Resistance
- Highest Q and SRF
- Low-Cost Technology

Specifications

- Inductance Range: 2.2 µH to 47 mH
- Saturation Current: up to 6.5 A I-sat
- Rated Current Inductance, drops by 10% @ I-sat (Ta = 20°C)
- Temperature Rise: 40°C @ I rms rated current (Ta = 20°C)
- 12.5 mm x 8.7 mm diameter through hole package
- 5 mm Lead Length
- Operating Temperature Range: -40°C to +125°C (Ambient plus self-temperature rise)
- Storage Temperature Range (component): -40°C to +125°C

Applications

- LED Drivers
- Utility Meters
- Power Supplies/Modules
- DC/DC Converters
- Motor Drives
- Telecom Equipment
- Consumer Electronics
- Game Consoles
- Computer Peripherals
- Handheld Devices
- Output Chokes
- EMI/RFI Filters

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RoHS Compliant

REACH COMPLIANCE

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PRODUCT IDENTIFICATION

DRC V - 470 K

Type / Product Series
DRC = Radial Drum Core Inductors

Mount
V = Vertical

Inductance Tolerance
K = ±10%
M = ±20%

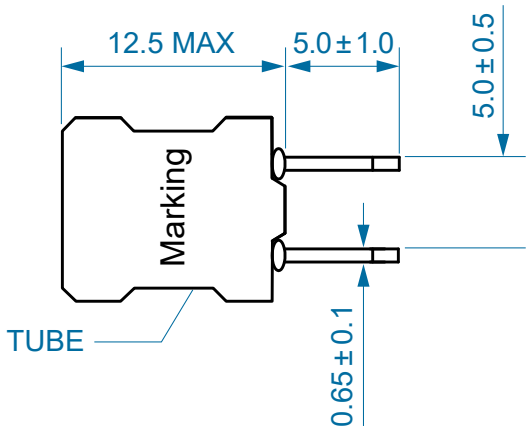
Inductance *
470 = 47 µH

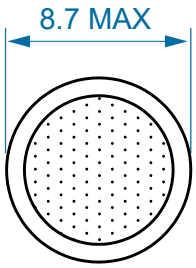
* Note: Expressed by three figures. The unit is micro henry (µH). The first and second figures are significant digits, the third figure expresses the number of zeros which follow the two figures.

If there is a decimal point, it is expressed by the capital letter "R" (3R8 = 3.8 µH). In that case, all figures are significant digits.

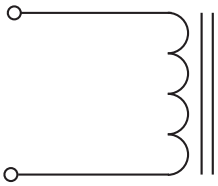
MECHANICAL SPECIFICATIONS

Dimensions are in mm.





SCHEMATIC



Undeclared to tolerance:

a) X.X ± 0.25 unless stated otherwise
b) X.XX ± 0.15 unless stated otherwise

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ELECTRICAL SPECIFICATIONS

Electrical specifications for all part numbers measured at 25°C unless stated otherwise.

Part Number	L (µH)	Q Min.	Q Test Freq. (MHz)	DCR Max. (Ω)	SRF Min. REF (MHz)	I_{rms} Typ. (A)	I_{sat} Typ. (A)
DRC-V-2R2M	2.2	20	7.96	0.021	100	5.6	6.5
DRC-V-3R3M	3.3	20	7.96	0.025	79	4.6	5.5
DRC-V-6R8K	6.8	20	7.96	0.035	29	3.65	3.70
DRC-V-100K	10	50	2.52	0.045	14	3.1	3.00
DRC-V-120K	12	50	2.52	0.05	13	2.9	2.70
DRC-V-150K	15	40	2.52	0.056	12	2.8	2.3
DRC-V-180K	18	40	2.52	0.061	11	2.6	2.2
DRC-V-220K	22	40	2.52	0.070	9.2	2.55	2.0
DRC-V-270K	27	30	2.52	0.08	8.5	2.5	1.7
DRC-V-330K	33	30	2.52	0.09	7.8	2.45	1.6
DRC-V-390K	39	30	2.52	0.1	6.9	2.4	1.50
DRC-V-470K	47	30	2.52	0.16	6.5	2.35	1.40
DRC-V-560K	56	30	2.52	0.18	5.4	1.75	1.30
DRC-V-680K	68	30	2.52	0.21	4.9	1.4	1.20
DRC-V-820K	82	30	2.52	0.23	4.1	1.35	1.10
DRC-V-101K	100	20	0.796	0.28	3.7	1.2	0.91
DRC-V-121K	120	20	0.796	0.32	3.4	1.05	0.84
DRC-V-151K	150	20	0.796	0.37	3.2	1.00	0.75
DRC-V-181K	180	20	0.796	0.58	2.8	0.75	0.69
DRC-V-221K	220	10	0.796	0.65	2.7	0.7	0.64
DRC-V-271K	270	10	0.796	0.75	2.4	0.60	0.57
DRC-V-331K	330	10	0.796	0.85	2.3	0.56	0.54
DRC-V-391K	390	10	0.796	1.00	2.1	0.5	0.48
DRC-V-471K	470	10	0.796	1.1	1.9	0.47	0.46
DRC-V-561K	560	10	0.796	1.4	1.8	0.45	0.41
DRC-V-681K	680	10	0.796	1.6	1.6	0.42	0.38
DRC-V-821K	820	10	0.796	1.80	1.5	0.41	0.35
DRC-V-102K	1000	20	0.252	2.90	1.3	0.35	0.29
DRC-V-122K	1200	20	0.252	4.0	1.1	0.3	0.13
DRC-V-152K	1500	20	0.252	6.1	1.0	0.285	0.08
DRC-V-182K	1800	20	0.252	6.4	1.0	0.27	0.08
DRC-V-222K	2200	20	0.252	6.8	0.9	0.245	0.08
DRC-V-272K	2700	20	0.252	7.7	0.9	0.23	0.08
DRC-V-332K	3300	20	0.252	9.0	0.7	0.195	0.08
DRC-V-392K	3900	20	0.252	14.0	0.6	0.185	0.08
DRC-V-472K	4700	20	0.252	16.0	0.5	0.175	0.05
DRC-V-562K	5600	20	0.252	18.0	0.4	0.145	0.05
DRC-V-682K	6800	20	0.252	19.0	0.4	0.135	0.05

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DRC-V-822K	8200	20	0.2520	21.0	0.3	0.130	0.05
DRC-V-103K	10 000	30	0.0796	25.0	0.3	0.120	0.05
DRC-V-123K	12 000	30	0.0796	33.0	0.3	0.115	0.04
DRC-V-153K	15 000	30	0.0796	37.0	0.2	0.100	0.04
DRC-V-183K	18 000	30	0.0796	40.0	0.2	0.090	0.04
DRC-V-223K	22 000	30	0.0796	56.0	0.1	0.080	0.03
DRC-V-273K	27 000	30	0.0796	62.0	0.1	0.075	0.03
DRC-V-333K	33 000	30	0.0796	70.0	0.1	0.070	0.03
DRC-V-393K	39 000	30	0.0796	80.0	0.1	0.065	0.03
DRC-V-473K	47 000	20	0.0796	99.0	0.1	0.055	0.03

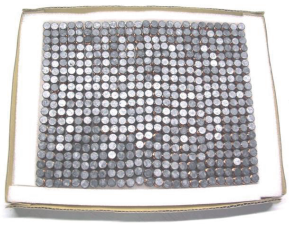
- **Characteristics**
  I_{sat} (Saturation Current): The current when the inductance becomes 10% lower than its initial value (Ta = 20°C)
  I_{rms} (Temperature Rise): The current when temperature of coil increases up to Typ. ΔT= 40°C (Ta = 20°C)

- **Test equipment**
  L: measured on Agilent 4284A LCR meter or equivalent
  DCR: measured on Chroma 16502 micro micro-OHM meter or equivalent
  I_{sat} & I_{rms} : measured on Agilent 4284A LCR meter with 42841A Current Source or equivalent

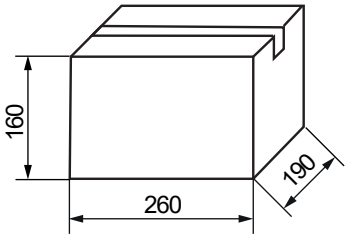
- **Notice**
  There could be measurement deviations with different instruments due to different test principles / internal resistance.
  Open and Short compensation is performed before testing

PACKAGING SPECIFICATIONS

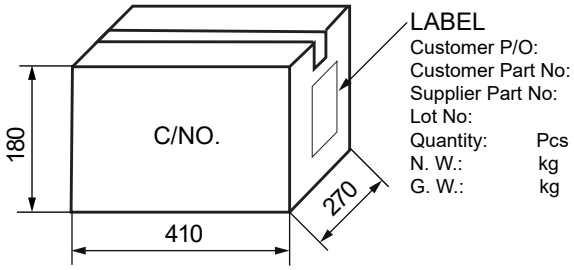
Dimension unit : mm



Inside Board



Small Carton



Outer Carton

Series	Packaging Quantity (pcs)		
	Each board	Small carton	Outer carton
DRC-V	500	2500	5000

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About Signal Transformer

Signal Transformer is known as the world's leader of wire wound magnetic solutions since 1959. With over 50 years of experience manufacturing transformers, chokes, inductors and custom or modified standard products. Signal offers not only the most comprehensive line of certified standard power conversion products, with our vast engineering, manufacturing and regulatory resources; Signal Transformer excels in the design and manufacturer of cost effective, specialized platforms.

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