

# 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  $\mu$ H to 47 mH
- Saturation Current of up to 5.5 A I-sat
- Rated Current Inductance, drops by 10% @ I-sat ( $T_a = 20^\circ\text{C}$ )
- Temperature Rise:  $40^\circ\text{C}$  @ I rms rated current ( $T_a = 20^\circ\text{C}$ )
- 12.5 mm x 8.7 mm diameter through hole package
- 5 mm Lead Length
- Operating Temperature Range:  $-40^\circ\text{C}$  to  $+125^\circ\text{C}$  (Ambient plus self-temperature rise)
- Storage Temperature Range (component):  $-40^\circ\text{C}$  to  $+125^\circ\text{C}$

### 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

## PRODUCT IDENTIFICATION

DRC   V - 100   K  
 (1)   (2)   (3)   (4)

(1) Type: DRC Series

(2) Mount: Vertical

(3) Inductance: 100 for 10  $\mu$ H ;

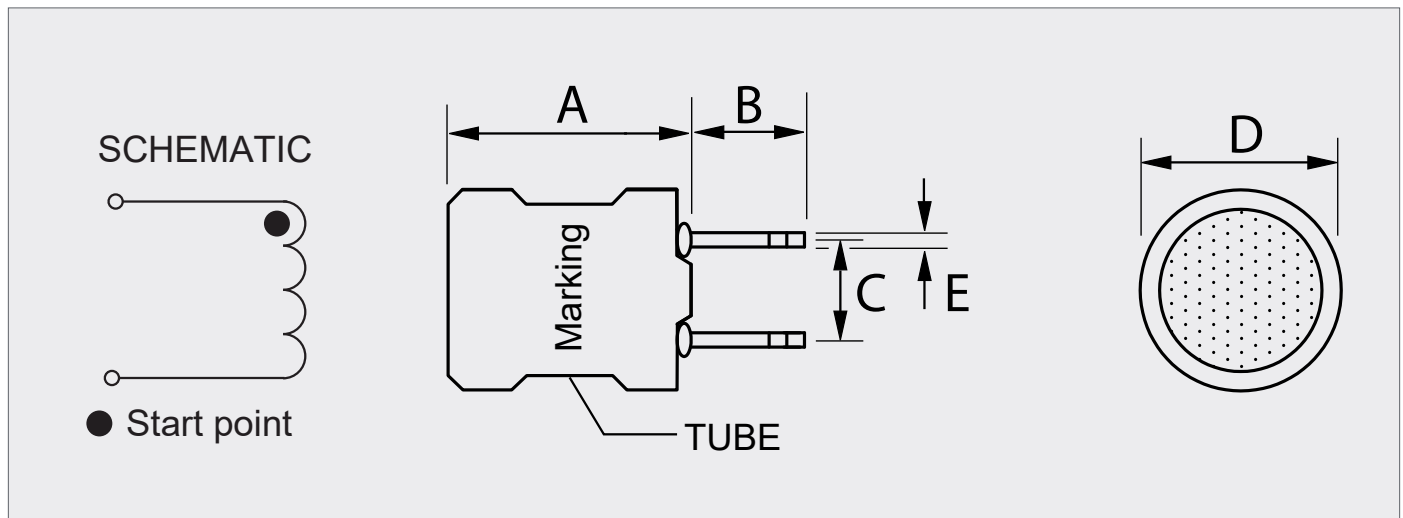
**Note:** Expressed by three figures. The unit is micro micro-henry(  $\mu$ H). The first and second figures are significant digits, and the third figure expresses the number of zeros which follow the two figures. If there is a decimal point, it is expressed by the capital letter "R". In this case, all figures are significant digits.

(4) Inductance tolerance: K =  $\pm 10\%$ , M =  $\pm 20\%$

## MECHANICAL SPECIFICATIONS

Dimensions are in mm.

SERIES	A	B	C	D	E
DRC-V	12.5 MAX	5.0 $\pm$ 1.0	5.0 $\pm$ 0.5	8.7 MAX	0.65 $\pm$ 0.1



Undeclared to tolerance:

- a) X.X  $\pm$  0.25 unless stated otherwise
- b) X.XX  $\pm$  0.15 unless stated otherwise

**Custom versions available upon request.**



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## ELECTRICAL SPECIFICATIONS

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

Part Number	L ( $\mu$ H)	Q Min.	Q Test Freq. (MHz)	DCR ( $\Omega$ ) Max.	SRF ( $\Omega$ ) Max. REF	I <sub>rms</sub> (A) Typ.	I <sub>sat</sub> (A) Typ.
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-100K	10	50	2.52	0.045	14	3.1	3.0
DRC-V-220K	22	40	2.52	0.070	9.2	2.55	2.0
DRC-V-221K	220	20	0.796	0.065	2.7	0.7	0.64
DRC-V-391K	390	20	0.796	1.00	2.1	0.5	0.48
DRC-V-821K	820	15	0.796	1.80	1.5	0.41	0.35
DRC-V-102K	1000	30	0.252	2.90	1.3	0.35	0.29
DRC-V-822K	8200	20	0.252	21.0	0.3	0.13	0.05
DRC-V-473K	4700	20	0.0796	99.0	0.1	0.055	0.03

- Characteristics**

I<sub>sat</sub> (Saturation Current): The current when the inductance becomes 10% lower than its initial value (Ta = 20°C)

I<sub>rms</sub> (Temperature Rise): The current when temperature of coil increases up to Typ.  $\Delta T = 40^\circ\text{C}$  (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<sub>sat</sub> & I<sub>rms</sub>:** 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

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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.



**For more information,  
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