

# DRC-0406

## Radial Coil Inductors

The DRC-0406 Series is the first of four new inductor series of Signal's line of unshielded radial drum chokes which are also known as fixed or 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 such as industrial, consumer, and medical products.

Utilizing the latest winding technology, copper windings and ferrite cores, Signal's DRC 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

- Wide inductance range
- Lowest DCR
- Tape packaging for auto-insertion
- Shrink tubing protected winding
- Fixed lead spacing
- High peak current support
- Large saturation current capacity
- Small footprint

### Specifications

- Inductance Range: 1.2  $\mu\text{H}$  to 2200  $\mu\text{H}$
- Rated Current : It is either the inductance is 10% lower than its initial value in DC Saturation characteristics or temperature rise becomes  $\Delta T = 20^\circ\text{C}$  ( $T_a = 20^\circ\text{C}$ ), whichever is lower.
- Operating Temperature Range:  $-20^\circ\text{C}$  to  $+85^\circ\text{C}$
- Storage Temperature Range (component):  $-40^\circ\text{C}$  to  $+125^\circ\text{C}$

### Applications

- TV and Audio equipment
- Telecommunication devices
- Personal computers
- Switching power supplies
- Other noise filters

## PRODUCT IDENTIFICATION

**DRC - 0406 - 470 K - UL**

**Type / Product Series**  
**DRC** = Radial Drum Core Inductors

**Core Size**  
**0406** = OD = 4 mm, L = 6 mm

**Inductance \***  
**470** = 47  $\mu$ H

\* Note: Expressed by three figures. The unit is micro henry ( $\mu$ H). 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  $\mu$ H). In that case, all figures are significant digits.

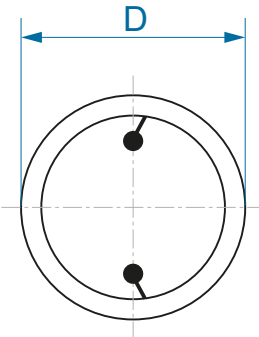
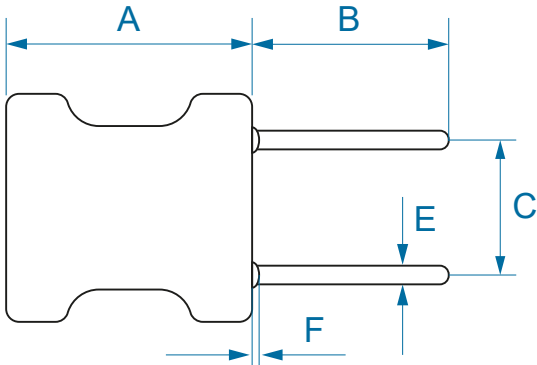
**Sleeve**  
**UL** = UL Tape (black)  
 No code = No Sleeve

**Inductance Tolerance**  
**J** =  $\pm 5\%$   
**K** =  $\pm 10\%$   
**M** =  $\pm 20\%$

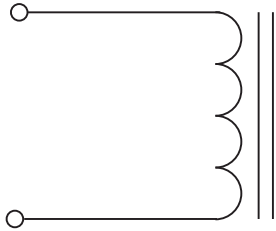
## MECHANICAL SPECIFICATIONS

Dimensions are in mm.

SERIES	A	B Min	C	D Max	E $\pm 0.05$
DRC-0406	8.0	15.0	2.0 $\pm$ 0.5	5.5	0.55



## SCHEMATIC



Custom versions available upon request.



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## ELECTRICAL SPECIFICATIONS

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

### DRC-0406 SERIES

Part Number	L @ 1 kHz ( $\mu$ H)	Q Min.	Q Test Freq. (MHz)	SRF Min. (MHz)	DCR Max. ( $\Omega$ )	Rated Current Max (mA)
DRC-0406-1R2J-UL	1.2	100	7.96	120	0.058	1950
DRC-0406-3R3M-UL	3.3	100	7.96	75	0.130	1500
DRC-0406-470K-UL	47	70	2.52	7.8	0.76	550
DRC-0406-101J-UL	100	45	0.796	6.0	1.0	400
DRC-0406-151J-UL	150	65	0.796	4.2	1.3	350
DRC-0406-331J-UL	330	50	0.796	2.2	2.2	250
DRC-0406-471J-UL	470	50	0.796	1.7	3.6	200
DRC-0406-681J-UL	680	50	0.796	1.3	4.6	170
DRC-0406-102J-UL	1000	90	0.252	1.0	6.7	150
DRC-0406-152J-UL	1500	80	0.252	0.8	13	120
DRC-0406-222J-UL	2200	80	0.252	0.8	17	100

Note: Rated Current is the  $I_{sat}$  (Saturation Current) or the  $I_{rms}$  (Temperature Rise Current). Whichever value is lower.

- Characteristics**

$I_{sat}$  (Saturation Current): The value of inductance decrease within 10%

$I_{rms}$  (Temperature Rise): The temperature of coil increases within 20°C.

- Test equipment**

**L&Q:** measured on HP 4285A or HP 4284A

**DCR:** measured on Chroma 16502 milli-ohm meter

**SRF:** HM 9461 L-SRF meter

Electrical specifications at 25°C

- Notice**

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

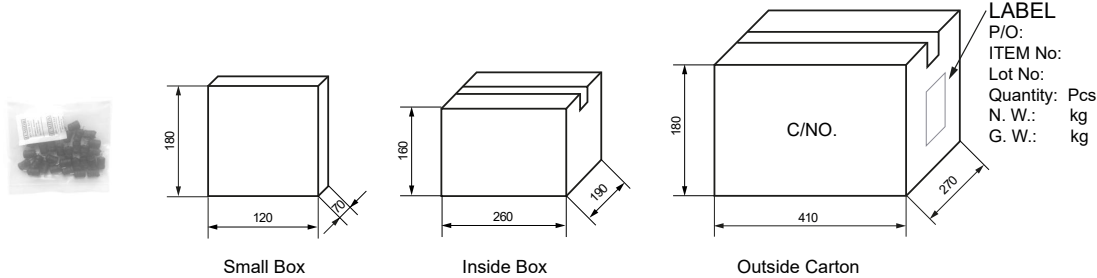
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**IN BAG PACKAGING SPECIFICATIONS**



Series	Packaging Quantity (pcs)			
	Bag	Small box	Inside box	Outside carton
DRC-0406	500	2500	10000	20000

- Storage Conditions**
  - Temperature and humidity conditions < 35°C and < 35 - 65 %
  - Recommendations: Inductors should be used within 6 months from the time of delivery
  - Packaging material should be kept away from where chlorine and sulfur exist

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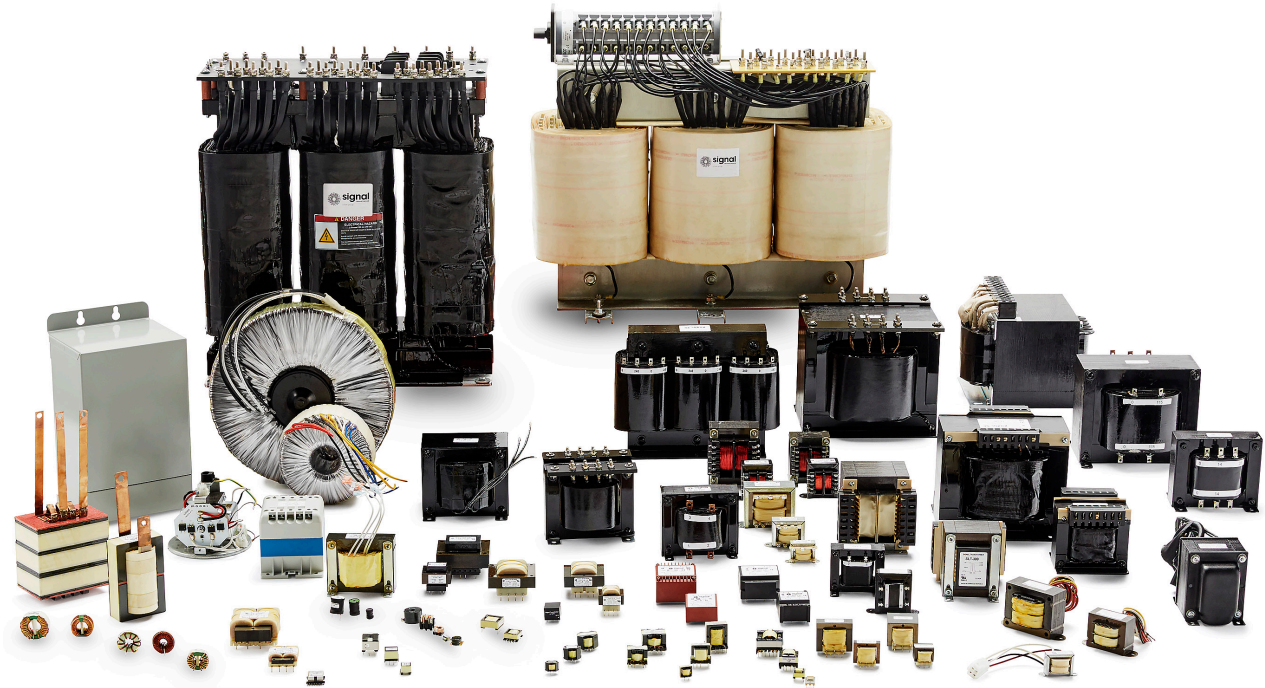
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## About Signal Transformer

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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