

DRC-0810 DRC-1010

Radial Coil Inductors

The DRC-0810, DRC-1010 Series is the third series in Signal's 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: 3.3 μ H to 15000 μ 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°C to $+85^{\circ}\text{C}$
- Storage Temperature Range (component): -40°C to $+125^{\circ}\text{C}$

Applications

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

PRODUCT IDENTIFICATION

DRC - 0810 - 470 J - UL

Type / Product Series
DRC = Radial Drum Core Inductors

Core Size
0810 = OD = 8 mm, L = 10 mm
1010 = OD = 10 mm, L = 10 mm

Inductance *
470 = 47 μ H

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

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

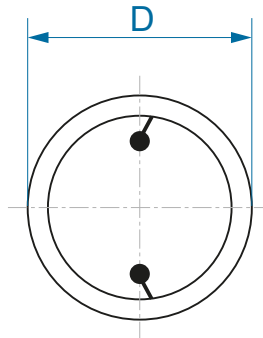
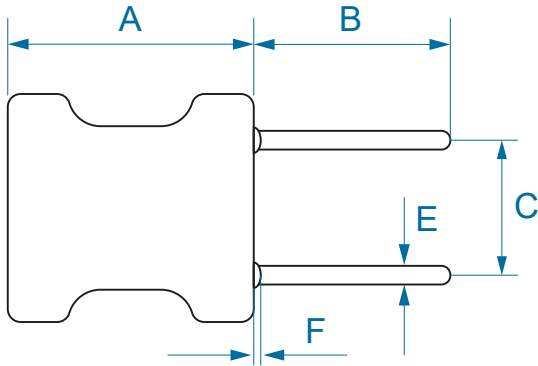
* Note: Expressed by three figures. The unit is micro henry (μ H). The first and second figures are significant digits, the third figure expresses the number of zeros which follow the two figures.

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

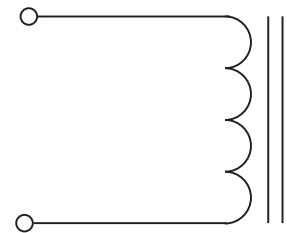
MECHANICAL SPECIFICATIONS

Dimensions are in mm.

SERIES	A	B Min	C	D Max	E ± 0.05
DRC-0810	13.0	15.0	5.0 \pm 1.0	10.0	0.65
DRC-1010	13.0	15.0	5.0 \pm 1.0	12.0	0.80



SCHEMATIC



Custom versions available upon request.



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DRC-0810 / DRC-1010 Series Datasheet

ELECTRICAL SPECIFICATIONS

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

DRC-0810 SERIES

Part Number	L @ 1 kHz (μ H)	Q Min.	Q Test Freq. (MHz)	SRF Min. (MHz)	DCR Max. (Ω)	Rated Current Max (mA)
DRC-0810-3R3J-UL	3.3	30	7.96	65	0.012	5000
DRC-0810-100K-UL	10	50	2.52	17	0.025	3200
DRC-0810-120J-UL	12	50	2.52	15	0.027	3000
DRC-0810-150K-UL	15	50	2.52	13	0.033	2800
DRC-0810-180K-UL	18	50	2.52	12	0.039	2600
DRC-0810-560K-UL	56	40	2.52	6.4	0.15	1300
DRC-0810-121J-UL	120	30	0.796	4.2	0.22	800
DRC-0810-181J-UL	180	30	0.796	3.5	0.28	650
DRC-0810-271J-UL	270	20	0.796	2.9	0.40	550
DRC-0810-331J-UL	330	20	0.796	2.6	0.47	500
DRC-0810-471J-UL	470	20	0.796	2.2	0.80	420
DRC-0810-561J-UL	560	20	0.796	2.0	1.0	380
DRC-0810-681J-UL	680	20	0.796	1.8	1.2	350
DRC-0810-821J-UL	820	20	0.796	1.7	1.5	310

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

DRC-1010 SERIES

Part Number	L @ 1 kHz (μ H)	Q Min.	Q Test Freq. (MHz)	SRF Min. (MHz)	DCR Max. (Ω)	Saturation Current Max (A)	Temperature Rise Current Max (A)
DRC-1010-100J-UL	10	20	2.52	16	0.025	5.0	3.7
DRC-1010-150K-UL	15	20	2.52	12	0.029	4.2	3.4
DRC-1010-220K-UL	22	20	2.52	9.5	0.040	3.4	2.9
DRC-1010-330K-UL	33	30	2.52	7.0	0.062	2.8	2.3
DRC-1010-470K-UL	47	30	2.52	5.8	0.075	2.3	2.1
DRC-1010-101J-UL	100	20	0.796	3.8	0.16	1.6	1.4
DRC-1010-221J-UL	220	20	0.796	2.5	0.33	1.1	1.0
DRC-1010-331J-UL	330	20	0.796	2.0	0.52	0.88	0.82
DRC-1010-332J-UL	3300	30	0.252	0.64	4.9	0.28	0.26
DRC-1010-472J-UL	4700	30	0.252	0.54	7.6	0.24	0.21
DRC-1010-682J-UL	6800	30	0.252	0.45	9.8	0.20	0.18
DRC-1010-103J-UL	10000	30	0.0796	0.38	18	0.17	0.14
DRC-1010-153J-UL	15000	50	0.0796	0.29	24	0.13	0.12

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- Characteristics**

I_{sat} (Saturation Current): The value of inductance decrease within 10%
 I_{rms} (Temperature Rise): The temperature of coil increases within 20°C.

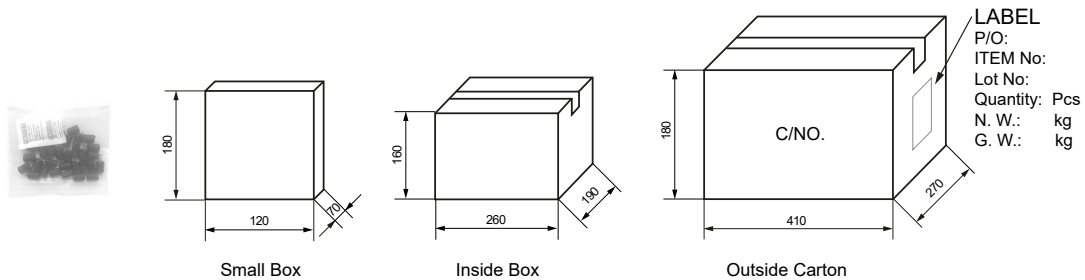
- Test equipment**

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

IN BAG PACKAGING SPECIFICATIONS



Series	Packaging Quantity (pcs)			
	Bag	Small box	Inside box	Outside carton
DRC-0810	100	500	2000	4000
DRC-1010	100	500	2000	4000

- Storage Conditions**

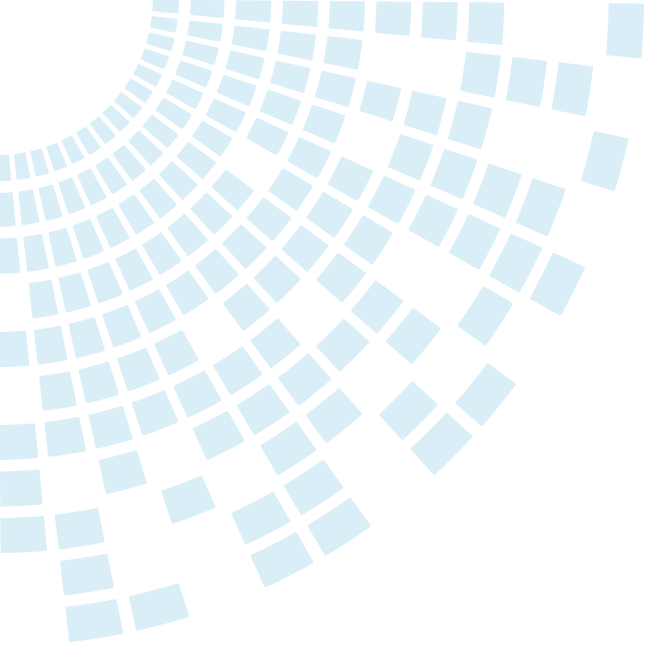
- Temperature and humidity conditions < 35°C and < 35 - 65 %
- Recommendations: Inductors should be used within 6 months from the time of delivery
- Packaging material should be kept away from where chlorine and sulfur exist

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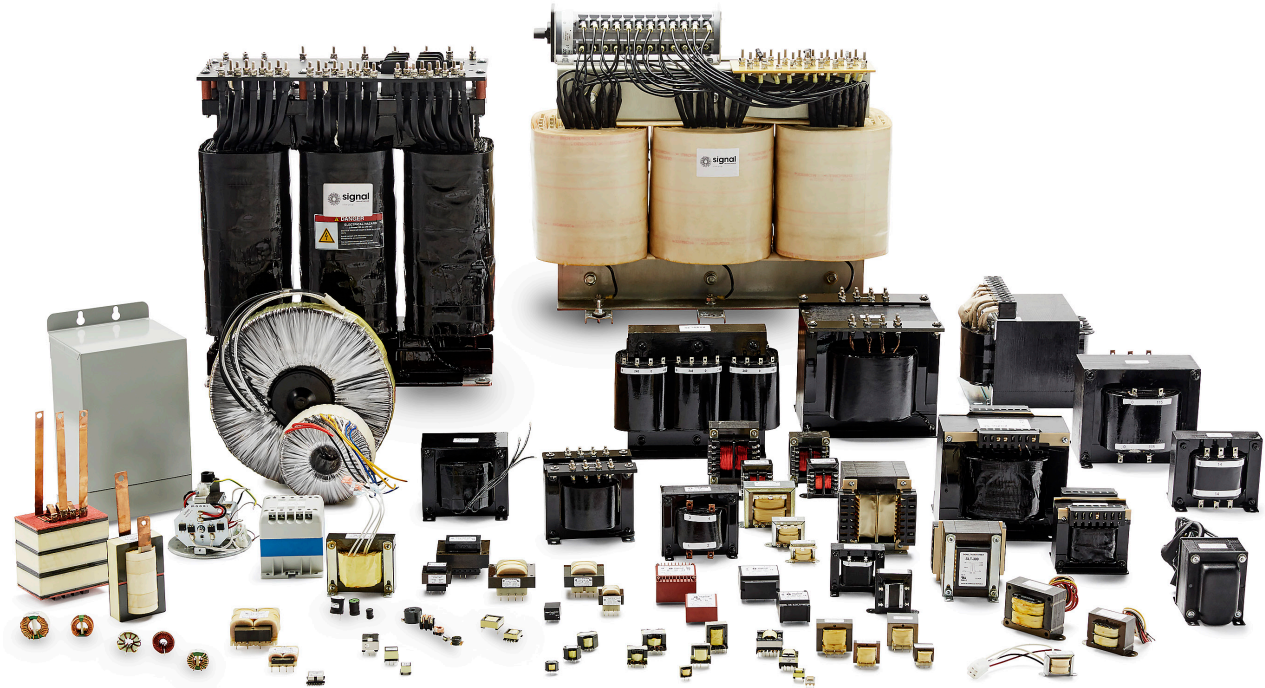
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About Signal Transformer

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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