

## Features

- Formerly J.W. Miller® model
- Current rating up to 3.3 A
- Inductance range: 1.0  $\mu$ H to 1,000  $\mu$ H
- RoHS compliant\*

## Applications

- DC/DC converters
- Power supplies
- General use

# 5300 Series Conformal Coated RF Choke

### Electrical Specifications (@ 25 °C)

Bourns Part No.	Inductance		Test Frequency	SRF (MHz) Min.	DCR ( $\Omega$ ) Max.	Idc (mA)	Isat (mA)
	( $\mu$ H)	Tol. (%)					
5300-01-RC	1.0	$\pm$ 10	7.96 MHz	190	0.018	3300	3000
5300-02-RC	1.2	$\pm$ 10	7.96 MHz	170	0.019	3200	2700
5300-03-RC	1.5	$\pm$ 10	7.96 MHz	160	0.020	3100	2500
5300-04-RC	1.8	$\pm$ 10	7.96 MHz	150	0.023	2900	2100
5300-05-RC	2.2	$\pm$ 10	7.96 MHz	130	0.031	2600	2000
5300-06-RC	2.7	$\pm$ 10	7.96 MHz	120	0.033	2500	1900
5300-07-RC	3.3	$\pm$ 10	7.96 MHz	110	0.054	1900	1700
5300-08-RC	3.9	$\pm$ 10	7.96 MHz	100	0.060	1800	1500
5300-09-RC	4.7	$\pm$ 10	7.96 MHz	86	0.068	1700	1400
5300-10-RC	5.6	$\pm$ 10	7.96 MHz	64	0.074	1600	1300
5300-11-RC	6.8	$\pm$ 10	7.96 MHz	44	0.080	1600	1200
5300-12-RC	8.2	$\pm$ 10	7.96 MHz	32	0.087	1500	1100
5300-13-RC	10	$\pm$ 10	1 KHz	25	0.095	1500	970
5300-14-RC	12	$\pm$ 10	1 KHz	17	0.11	1400	880
5300-15-RC	15	$\pm$ 10	1 KHz	13	0.15	1200	790
5300-16-RC	18	$\pm$ 10	1 KHz	10	0.16	1100	710
5300-17-RC	22	$\pm$ 10	1 KHz	8.4	0.19	1000	640
5300-18-RC	27	$\pm$ 10	1 KHz	8.0	0.22	950	580
5300-19-RC	33	$\pm$ 10	1 KHz	7.6	0.24	910	530
5300-20-RC	39	$\pm$ 10	1 KHz	7.1	0.26	880	480
5300-21-RC	47	$\pm$ 10	1 KHz	6.0	0.35	760	430
5300-22-RC	56	$\pm$ 10	1 KHz	5.8	0.47	650	400
5300-23-RC	68	$\pm$ 10	1 KHz	4.3	0.53	610	370
5300-24-RC	82	$\pm$ 10	1 KHz	4.1	0.60	580	330
5300-25-RC	100	$\pm$ 10	1 KHz	3.9	0.67	550	300
5300-26-RC	120	$\pm$ 10	1 KHz	3.6	0.90	470	270
5300-27-RC	150	$\pm$ 10	1 KHz	3.2	1.2	410	250
5300-28-RC	180	$\pm$ 10	1 KHz	2.8	1.4	380	220
5300-29-RC	220	$\pm$ 10	1 KHz	2.3	1.9	320	200
5300-30-RC	270	$\pm$ 10	1 KHz	2.1	2.1	310	180
5300-31-RC	330	$\pm$ 10	1 KHz	1.9	2.4	290	170
5300-32-RC	390	$\pm$ 10	1 KHz	1.7	3.0	260	150
5300-33-RC	470	$\pm$ 10	1 KHz	1.4	3.4	240	140
5300-34-RC	560	$\pm$ 10	1 KHz	1.3	4.7	210	130
5300-35-RC	680	$\pm$ 10	1 KHz	1.2	6.4	180	110
5300-36-RC	820	$\pm$ 10	1 KHz	1.1	7.1	170	100
5300-37-RC	1000	$\pm$ 10	1 KHz	1.0	7.9	160	95
5300-38-RC	1200	$\pm$ 10	1 KHz	0.94	9.0	150	87
5300-39-RC	1500	$\pm$ 10	1 KHz	0.76	12	130	78
5300-40-RC	1800	$\pm$ 10	1 KHz	0.72	14	120	71
5300-41-RC	2200	$\pm$ 10	1 KHz	0.64	19	100	64
5300-42-RC	2700	$\pm$ 10	1 KHz	0.56	25	90	58
5300-43-RC	3300	$\pm$ 10	1 KHz	0.53	29	83	52
5300-44-RC	3900	$\pm$ 10	1 KHz	0.48	34	77	48
5300-45-RC	4700	$\pm$ 10	1 KHz	0.45	37	74	44
5300-46-RC	5600	$\pm$ 10	1 KHz	0.40	50	63	40
5300-47-RC	6800	$\pm$ 10	1 KHz	0.36	58	59	36
5300-48-RC	8200	$\pm$ 10	1 KHz	0.29	68	54	33
5300-49-RC	10,000	$\pm$ 10	1 KHz	0.27	75	52	30

### Additional Information

Click these links for more information:



### General Specifications

Temperature Rise ..... 35 °C at Idc Rated Current  
 ..... Inductance drop 5 % typical at Isat  
 Operating Temperature ..... -55 °C to +105 °C  
 Storage Temperature ..... -55 °C to +105 °C  
 Dielectric Strength ..... 500 Vrms

### Materials

Core ..... Ferrite  
 Wire ..... Enameled copper  
 Terminal Coating ..... Sn  
 Coating ..... Epoxy resin  
 Packaging  
 Standard ..... 500 pcs. per bag  
 Optional ..... 3000 pcs. per 14-inch reel

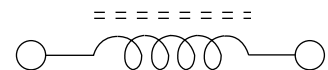
### How to Order

Model **5300 - 02 - - RC**  
 Value Code .....  
 (See table)  
 Packaging Code .....  
 Blank = 500 pcs./bag  
 TR = 3000 pcs./14-inch reel  
 Compliance Code .....  
 RC = RoHS compliant\*

Examples:

- 5300-02-RC = 1.2 mH packaged 500 pcs./bag.
- 5300-16-TR-RC = 18 mH packaged 3000 pcs./14-inch reel.

### Electrical Schematic



\*RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

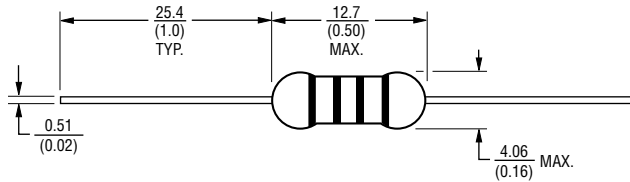


**WARNING**  
 Cancer and Reproductive Harm  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# 5300 Series Conformal Coated RF Choke

**BOURNS®**

## Product Dimensions



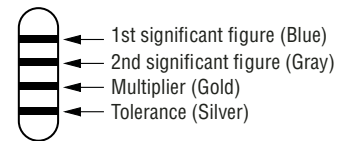
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

NOTE: The wire diameter used on these products is from 0.025 to 0.21 mm. Due to the inductor wire termination being made on the connection pin, careful handling during assembly is required to ensure that the lead is not subjected to any stress close to the termination point. If bending/shaping of the pin is required, maintain stability and avoid excessive or abrupt forces to keep the parts centered and the leads secure on both sides. The bend radius should be located several millimeters away from the wire termination point to ensure that it is not stressed, with possible stretching or snapping occurring.

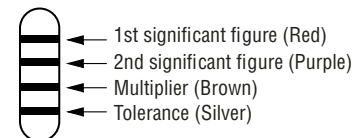
## Typical Part Marking - EIA Color Code

Color	1st & 2nd Significant Figure	Multiplier	Tolerance
Silver		0.01	±10 %
Gold		0.1	±5 %
Black	0	1	
Brown	1	10	
Red	2	100	
Orange	3	1000	
Yellow	4		
Green	5		
Blue	6		
Violet	7		
Gray	8		
White	9		

Example for 6.8  $\mu\text{H}$ , ±10 %



Example for 270  $\mu\text{H}$ , ±10 %



**BOURNS®**

Americas: Tel: +1 951-781-5500 • Email: [americus@bourns.com](mailto:americus@bourns.com)

Mexico: Tel: +52-614-478-0400 • Email: [mexicus@bourns.com](mailto:mexicus@bourns.com)

Asia: Tel: +886-2-2562-4117 • Email: [asiacus@bourns.com](mailto:asiacus@bourns.com)

EMEA: Tel: +36 88 885 877 • Email: [euocus@bourns.com](mailto:euocus@bourns.com)

[www.bourns.com](http://www.bourns.com)

REV. 03/25

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

This legal disclaimer applies to purchasers and users of Bourns® products manufactured by or on behalf of Bourns, Inc. and its affiliates (collectively, "Bourns").

Unless otherwise expressly indicated in writing, Bourns® products and data sheets relating thereto are subject to change without notice. Users should check for and obtain the latest relevant information and verify that such information is current and complete before placing orders for Bourns® products.

The characteristics and parameters of a Bourns® product set forth in its data sheet are based on laboratory conditions, and statements regarding the suitability of products for certain types of applications are based on Bourns' knowledge of typical requirements in generic applications. The characteristics and parameters of a Bourns® product in a user application may vary from the data sheet characteristics and parameters due to (i) the combination of the Bourns® product with other components in the user's application, or (ii) the environment of the user application itself. The characteristics and parameters of a Bourns® product also can and do vary in different applications and actual performance may vary over time. Users should always verify the actual performance of the Bourns® product in their specific devices and applications, and make their own independent judgments regarding the amount of additional test margin to design into their device or application to compensate for differences between laboratory and real world conditions.

Unless Bourns has explicitly designated an individual Bourns® product as meeting the requirements of a particular industry standard (e.g., IATF 16949) or a particular qualification (e.g., UL listed or recognized), Bourns is not responsible for any failure of an individual Bourns® product to meet the requirements of such industry standard or particular qualification. Users of Bourns® products are responsible for ensuring compliance with safety-related requirements and standards applicable to their devices or applications.

Bourns® products are not recommended, authorized or intended for use in nuclear, lifesaving, life-critical or life-sustaining applications, nor in any other applications where failure or malfunction may result in personal injury, death, or severe property or environmental damage. Unless expressly and specifically approved in writing by two authorized Bourns representatives on a case-by-case basis, use of any Bourns® products in such unauthorized applications might not be safe and thus is at the user's sole risk. Life-critical applications include devices identified by the U.S. Food and Drug Administration as Class III devices and generally equivalent classifications outside of the United States.

Bourns expressly identifies those Bourns® standard products that are suitable for use in automotive applications on such products' data sheets in the section entitled "Applications." Unless expressly and specifically approved in writing by two authorized Bourns representatives on a case-by-case basis, use of any other Bourns® standard products in an automotive application might not be safe and thus is not recommended, authorized or intended and is at the user's sole risk. If Bourns expressly identifies a sub-category of automotive application in the data sheet for its standard products (such as infotainment or lighting), such identification means that Bourns has reviewed its standard product and has determined that if such Bourns® standard product is considered for potential use in automotive applications, it should only be used in such sub-category of automotive applications. Any reference to Bourns® standard product in the data sheet as compliant with the AEC-Q standard or "automotive grade" does not by itself mean that Bourns has approved such product for use in an automotive application.

Bourns® standard products are not tested to comply with United States Federal Aviation Administration standards generally or any other generally equivalent governmental organization standard applicable to products designed or manufactured for use in aircraft or space applications. Bourns expressly identifies Bourns® standard products that are suitable for use in aircraft or space applications on such products' data sheets in the section entitled "Applications." Unless expressly and specifically approved in writing by two authorized Bourns representatives on a case-by-case basis, use of any other Bourns® standard product in an aircraft or space application might not be safe and thus is not recommended, authorized or intended and is at the user's sole risk.

The use and level of testing applicable to Bourns® custom products shall be negotiated on a case-by-case basis by Bourns and the user for which such Bourns® custom products are specially designed. Absent a written agreement between Bourns and the user regarding the use and level of such testing, the above provisions applicable to Bourns® standard products shall also apply to such Bourns® custom products.

Users shall not sell, transfer, export or re-export any Bourns® products or technology for use in activities which involve the design, development, production, use or stockpiling of nuclear, chemical or biological weapons or missiles, nor shall they use Bourns® products or technology in any facility which engages in activities relating to such devices. The foregoing restrictions apply to all uses and applications that violate national or international prohibitions, including embargos or international regulations. Further, Bourns® products and Bourns technology and technical data may not under any circumstance be exported or re-exported to countries subject to international sanctions or embargoes. Bourns® products may not, without prior authorization from Bourns and/or the U.S. Government, be resold, transferred, or re-exported to any party not eligible to receive U.S. commodities, software, and technical data.

To the maximum extent permitted by applicable law, Bourns disclaims (i) any and all liability for special, punitive, consequential, incidental or indirect damages or lost revenues or lost profits, and (ii) any and all implied warranties, including implied warranties of fitness for particular purpose, non-infringement and merchantability.

*For your convenience, copies of this Legal Disclaimer Notice with German, Spanish, Japanese, Traditional Chinese and Simplified Chinese bilingual versions are available at:*

*Web Page:* <http://www.bourns.com/legal/disclaimers-terms-and-policies>

*PDF:* <http://www.bourns.com/docs/Legal/disclaimer.pdf>