



**THE DATASHEET OF
78F681J-RC**





Features

- Current rating up to 1.2 A
- Dielectric strength: 500 VRMS
- RoHS compliant*

Applications

- DC/DC converters
- Power supplies
- General use

78F Series Conformal Coated RF Choke

Electrical Specifications (@ 25 °C)

Part Number	Value (μH)	Q Min.	Test Frequency (MHz)	SRF (MHz) Min.	DCR (Ω) Max.	IDC (mA) Max.
78FR10K-RC	0.10 ±10 %	20	25	400	0.060	1200
78FR12K-RC	0.12 ±10 %	20	25	400	0.070	1200
78FR15K-RC	0.15 ±10 %	20	25	380	0.070	1200
78FR18K-RC	0.18 ±10 %	20	25	380	0.073	1150
78FR22K-RC	0.22 ±10 %	40	25	380	0.075	1150
78FR27K-RC	0.27 ±10 %	40	25	360	0.085	1110
78FR33K-RC	0.33 ±10 %	40	25	335	0.095	1110
78FR39K-RC	0.39 ±10 %	40	25	310	0.10	1000
78FR47K-RC	0.47 ±10 %	40	25	270	0.11	1000
78FR56K-RC	0.56 ±10 %	40	25	245	0.12	950
78FR68K-RC	0.68 ±10 %	40	25	230	0.13	900
78FR82K-RC	0.82 ±10 %	40	25	200	0.14	875
78F1R0K-RC	1.0 ±10 %	40	25	180	0.15	815
78F1R2K-RC	1.2 ±10 %	40	7.9	165	0.18	740
78F1R5K-RC	1.5 ±10 %	50	7.9	150	0.20	700
78F1R8K-RC	1.8 ±10 %	50	7.9	125	0.23	655
78F2R2K-RC	2.2 ±10 %	50	7.9	110	0.25	630
78F2R7K-RC	2.7 ±10 %	50	7.9	95	0.28	595
78F3R3J-RC	3.3 ±5 %	50	7.9	60	0.30	575
78F3R9J-RC	3.9 ±5 %	45	7.9	50	0.32	555
78F4R7J-RC	4.7 ±5 %	45	7.9	38	0.35	530
78F5R6J-RC	5.6 ±5 %	45	7.9	32	0.40	500
78F6R8J-RC	6.8 ±5 %	40	7.9	28	0.45	470
78F8R2J-RC	8.2 ±5 %	40	7.9	20	0.55	425
78F100J-RC	10 ±5 %	40	7.9	18	0.75	370
78F120J-RC	12 ±5 %	45	2.5	16	0.80	350
78F150J-RC	15 ±5 %	50	2.5	16	0.93	335
78F180J-RC	18 ±5 %	50	2.5	15	1.00	315
78F220J-RC	22 ±5 %	50	2.5	13	1.20	285
78F270J-RC	27 ±5 %	50	2.5	11	1.35	270
78F330J-RC	33 ±5 %	50	2.5	10	1.50	255
78F390J-RC	39 ±5 %	50	2.5	9.50	1.70	240
78F470J-RC	47 ±5 %	60	2.5	8.50	2.70	205
78F560J-RC	56 ±5 %	60	2.5	7.50	2.95	195
78F680J-RC	68 ±5 %	60	2.5	6.50	3.30	185
78F820J-RC	82 ±5 %	60	2.5	6.00	3.60	175
78F101J-RC	100 ±5 %	60	2.5	5.50	4.10	165
78F121J-RC	120 ±5 %	60	0.79	5.40	4.70	160
78F151J-RC	150 ±5 %	60	0.79	4.75	5.40	150
78F181J-RC	180 ±5 %	60	0.79	4.35	6.00	140
78F221J-RC	220 ±5 %	60	0.79	4.00	6.80	130
78F271J-RC	270 ±5 %	60	0.79	3.70	7.70	120
78F331J-RC	330 ±5 %	60	0.79	3.40	11.1	100
78F391J-RC	390 ±5 %	60	0.79	2.80	12.6	95
78F471J-RC	470 ±5 %	60	0.79	2.55	14.0	90
78F561J-RC	560 ±5 %	60	0.79	2.35	15.5	85
78F681J-RC	680 ±5 %	60	0.79	2.00	25.3	68
78F821J-RC	820 ±5 %	60	0.79	1.50	27.5	65
78F102J-RC	1000 ±5 %	60	0.79	1.20	31.4	60

General Specifications

Temperature Rise 35 °C
at rated current
 Operating Temperature Range
 -55 °C to +105 °C
 (including temperature rise)
 Storage Temperature Range
 -55 °C to +105 °C
 Moisture Sensitivity Level..... 1
 ESD Classification (HBM)..... N/A

Materials

Core Material..... Ferrite DR core
 WireEnamelled copper wire
 Terminal Cu/Sn
 Coating.....Epoxy resin
 Packaging
 Standard 5000 pcs. per bag
 Optional..... 5000 pcs. per 14-inch reel

How to Order

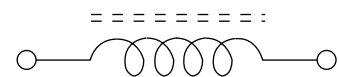
78F 100 J - RC

Model _____
 Value Code (see table) _____
 Tolerance Code (see table) _____
 Packaging _____
 Blank = 5,000 pcs./bag
 -TR = 5,000 pcs./14" reel
 RoHS Compliant _____

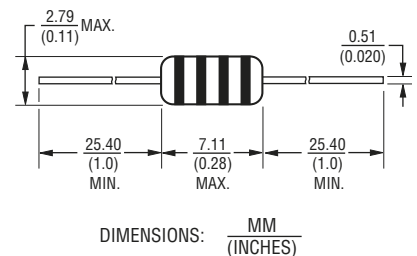
Examples:

- 78F1R0K-RC = 1.0 mH Model 78F packaged 5,000 pcs. per bag.
- 78F100J-TR-RC = 10 mH Model 78F packaged 5,000 pcs. per reel.

Electrical Schematic



Product Dimensions



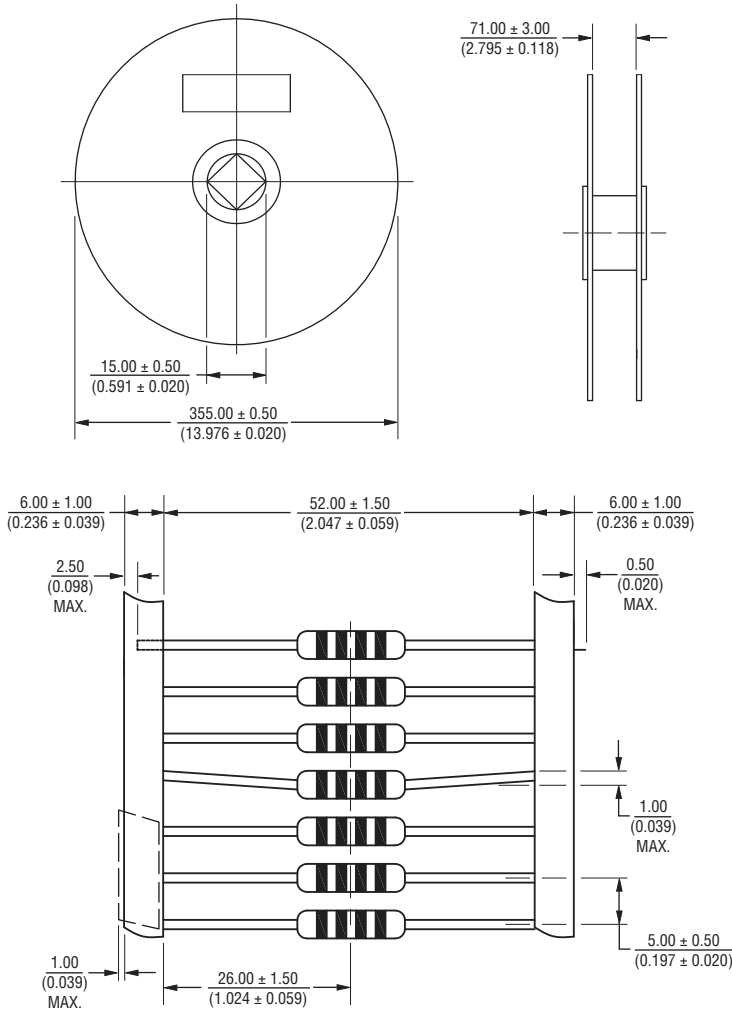
WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011. 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.

78F Series Conformal Coated RF Choke

BOURNS®

Packaging Specifications

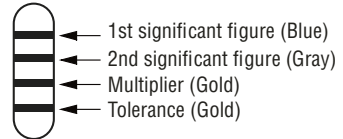


DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

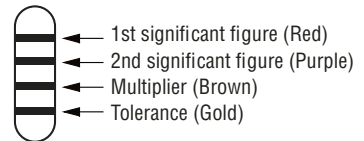
Typical Part Marking - EIA Color Code

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 μH , ±5 %



Example for 270 μH , ±5 %



BOURNS®

Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com

EMEA: Tel: +36 88 520 390 • Email: eurocus@bourns.com

The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com

www.bourns.com

REV. 01/18

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.

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., ISO/TS 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>

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View 78F681J-RC on WIN SOURCE](#)

 [Bourns Inc. Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management