LTCC SMT

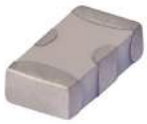
Band Pass Filter

BFCN-2840+

50Ω 2750 to 2930 MHz

THE BIG DEAL

- Good Rejection, 25 dB Typ.
- 1206 Surface Mount Footprint
- Power Handling: 1.5 Watts



Generic photo used for illustration purposes only

CASE STYLE: FV1206

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Harmonic Rejection
- Transmitters / Receivers
- WiMAX

PRODUCT OVERVIEW

Mini-Circuits' BFCN-2840+ LTCC Band Pass Filter is constructed with multiple layers in order to achieve a miniature size and high repeatability of performance. Wrap-around terminations minimize variations in performance due to parasitics. Covering 180 MHz passband, these units offer low insertion loss and good rejection.

KEY FEATURES

Feature	Advantages
Small Size, 1206	Allows for high layout density of circuit boards, while minimizing the effects of parasitics
Wrap around termination	Provides excellent solderability and easy visual inspection capability.
LTCC construction	Provides a rugged package that is well suited for tough environments including high humidity and high temperature extremes.
Rugged Power handling	Handles up to 1.5 Watts in a small package.

REV. B
ECO-016659
BFCN-2840+
URJ
230202

Band Pass Filter

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ELECTRICAL SPECIFICATIONS[1,2] AT 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	—	2840	—	MHz
	Insertion Loss	F1-F2	2750 - 2930	—	—	7	dB
	Return Loss	F1-F2	2750 - 2930	6.0	12.7	—	dB
Stop Band, Lower	Rejection	DC-F3	DC - 1500	—	25	—	dB
		DC-F4	DC - 1550	20	—	—	
Stop Band, Upper	Rejection	F5-F6	4000 - 4050	20	—	—	dB
		F6-F7	4050 - 6000	—	25	—	

1. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.

2. Measured on Mini-Circuits Characterization Test Board TB-270.

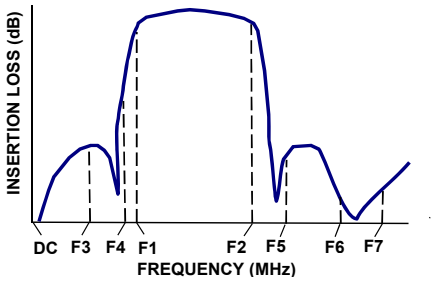
ABSOLUTE MAXIMUM RATINGS[1]

Parameter	Ratings
Operating temperature	-55°C to 100°C
Storage temperature	-55°C to 100°C
RF Power Input[2]	1.5W @25°C

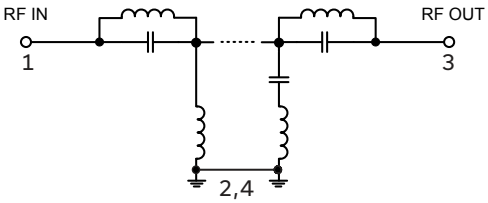
1. Permanent damage may occur if any of these limits are exceeded.

2. Power rating applies only to signals within the passband. Power rating above +25°C operating temperature decreases linearly to 0.25W at +100°C.

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL DIAGRAM



Band Pass Filter

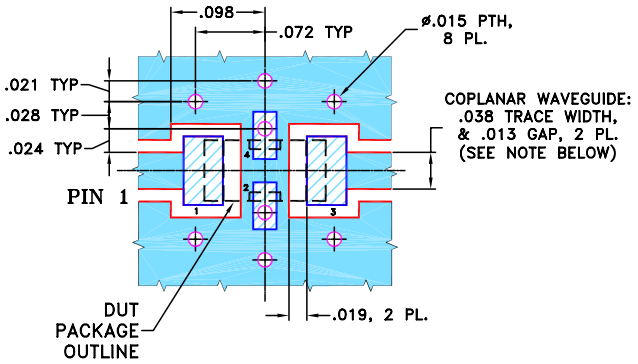
BFCN-2840+

PAD CONNECTIONS

RF IN	1
RF OUT	3
GROUND	2,4

PRODUCT MARKING: RY

DEMO BOARD MCL P/N: TB-270
SUGGESTED PCB LAYOUT (PL-137)

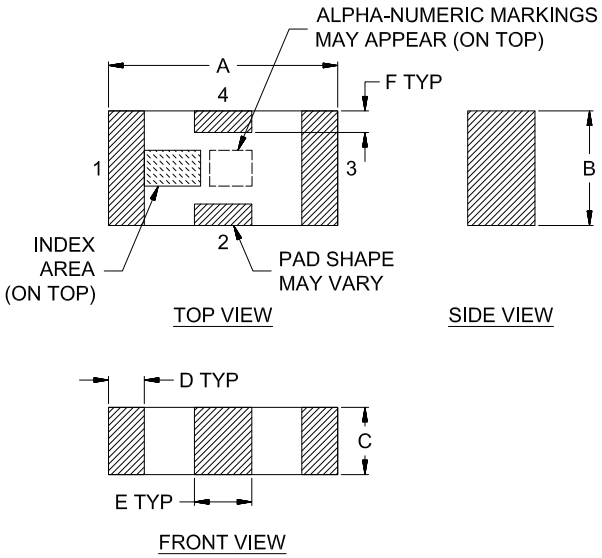


NOTES:
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inches / mm)

A	B	C	D	E	F	Wt.
.126	**.063**	**.037**	**.020**	**.032**	**.009**	grams
3.20	1.60	0.94	0.51	0.81	0.23	.020

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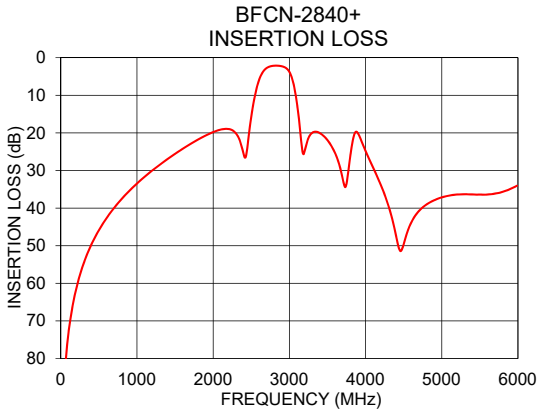
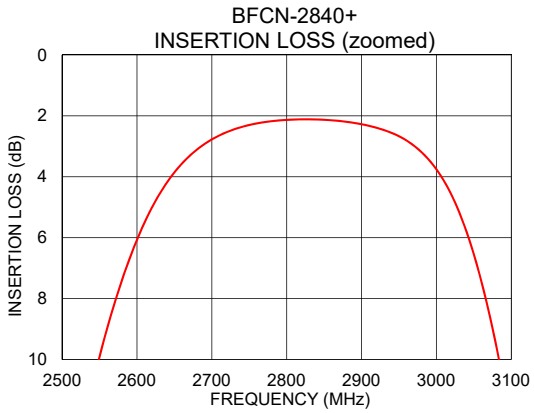
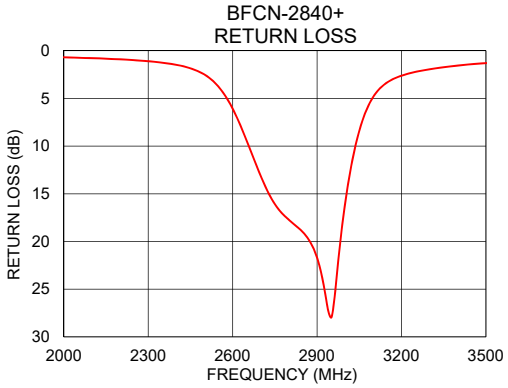
TYPICAL PERFORMANCE DATA AT 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
50	84.00	0.13
1025	32.99	0.30
1500	25.57	0.38
1550	24.89	0.40
2666	3.41	10.65
2750	2.30	16.08
2795	2.14	17.59
2840	2.12	18.74
2903	2.29	21.98
2930	2.47	25.66
3037	5.58	9.88
3144	19.86	3.42
3679	30.28	1.01
4000	24.80	0.74
4050	27.06	0.68
6000	33.85	0.81







NOTES

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp