



LTCC SMT

# Band Pass Filter

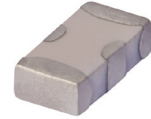
## BFCN-3010+

Mini-Circuits

50Ω 2920 to 3100 MHz

### THE BIG DEAL

- Good Rejection, 30dB Typ.
- Low Return Loss, 12.7dB 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
- Point-to-Point Communications

### PRODUCT OVERVIEW

Mini-Circuits' BFCN-3010+ 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-3010+  
URJ  
230202





### ELECTRICAL SPECIFICATIONS<sup>1,2</sup> AT 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	3010	—	MHz
	Insertion Loss	F1-F2	2920 - 3100	—	6	dB
	Return Loss	F1-F2	2920 - 3100	6.0	12.7	dB
Stop Band, Lower	Rejection	DC-F3	DC - 1300	—	30	dB
		DC-F4	DC - 1530	20	—	
Stop Band, Upper	Rejection	F5-F6	4450 - 4650	20	—	dB
		F6-F7	4650 - 6600	—	30	

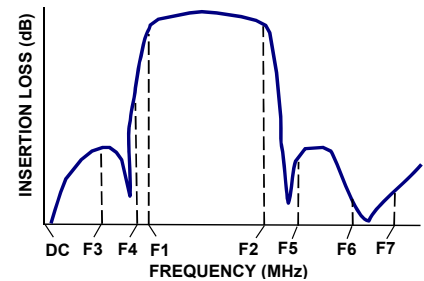
1. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.
2. Measured on Mini-Circuits Characterization Test Board TB-270.

### ABSOLUTE MAXIMUM RATINGS<sup>1</sup>

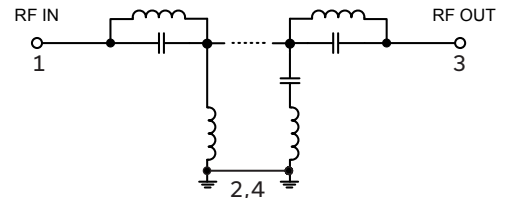
Parameter	Ratings
Operating temperature	-55°C to 100°C
Storage temperature	-55°C to 100°C
RF Power Input <sup>2</sup>	1.5W @25°C

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



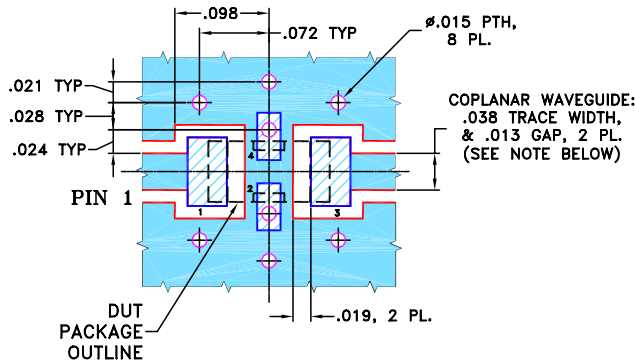


### PAD CONNECTIONS

RF IN	1
RF OUT	3
GROUND	2,4

PRODUCT MARKING: RK

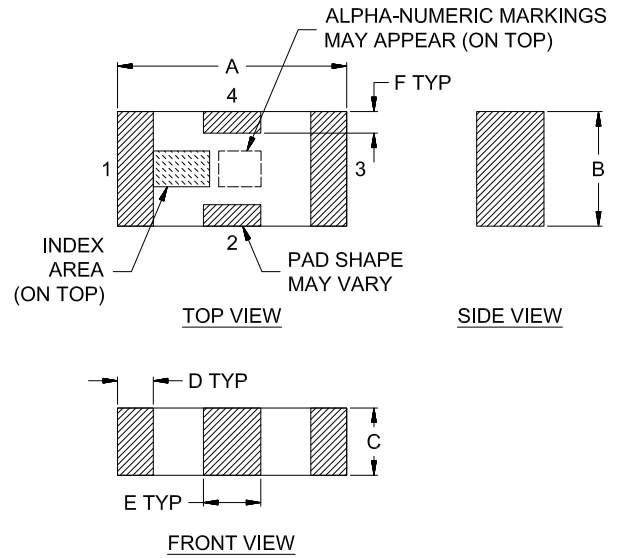
DEMO BOARD MCL P/N: TB-270  
SUGGESTED PCB LAYOUT (PL-137)



**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