LTCC SURFACE MOUNT

Bandpass Filter

BFTC-415+

50Ω 330 to 500 MHz

THE BIG DEAL

- Insertion Loss, 4 dB Typ.
- Passband Return Loss, 14 dB Typ.
- Power Handling: 4 W

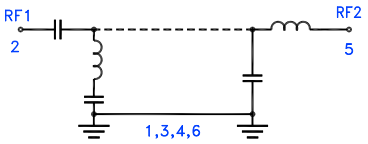


Generic photo used for illustration purposes only

APPLICATIONS

- Test and Measurement Equipment
- Harmonic Rejection
- Transmitters / Receiver

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

Mini-Circuits' BFTC-415+ LTCC Bandpass Filter covers the 330 to 500 MHz passband with 25 dB upper / lower stopband rejection. This model handles up to 4 W RF input power and provides a wide operating temperature range from -40 to +85°C. Utilizing LTCC multi-layer construction, the filter achieves excellent repeatability of performance and comes in a tiny ceramic package saving space in dense PCB layouts.

ELECTRICAL SPECIFICATIONS[1,2] AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency[3]	—	—	—	415	—	MHz
	Insertion Loss	F1-F2	330 - 500	—	4	5.5	dB
	Return Loss	F1-F2	330 - 500	—	14	—	dB
Stopband, Lower	Rejection	DC-F3	DC - 240	25	36	—	dB
Stopband, Upper	Rejection	F4-F5	650 - 1800	25	36	—	dB

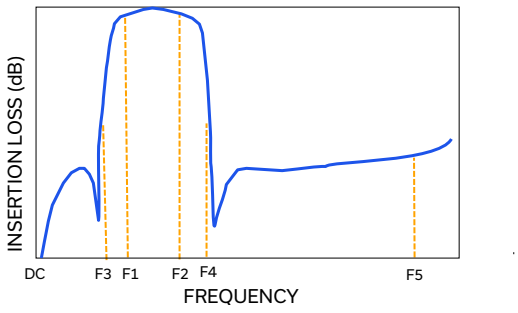
1. Tested in Evaluation Board P/N TB-BFTC-415+.
2. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.
3. Typical variation ± 5%.

ABSOLUTE MAXIMUM RATINGS[4]

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power[5]	4 W @ +25°C

4. Permanent damage may occur if any of these limits are exceeded.
5. Power rating applies only to signals within the passband. Power rating above +25°C operating temperature decreases linearly to 2 W at +85°C.

TYPICAL FREQUENCY RESPONSE AT +25°C



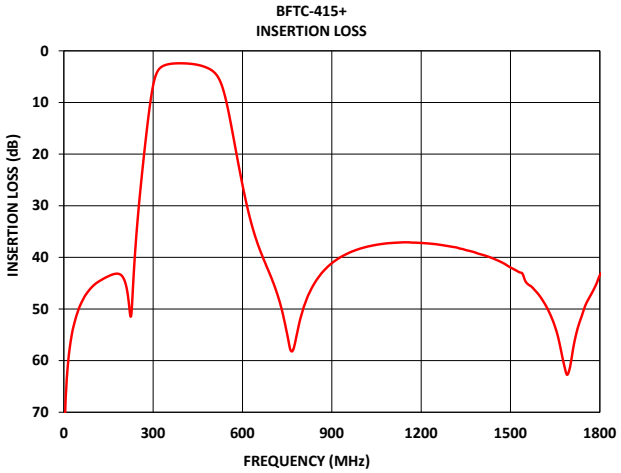
REV. D
ECO-030198
BFTC-415+
EDU2824
MCINU
260717

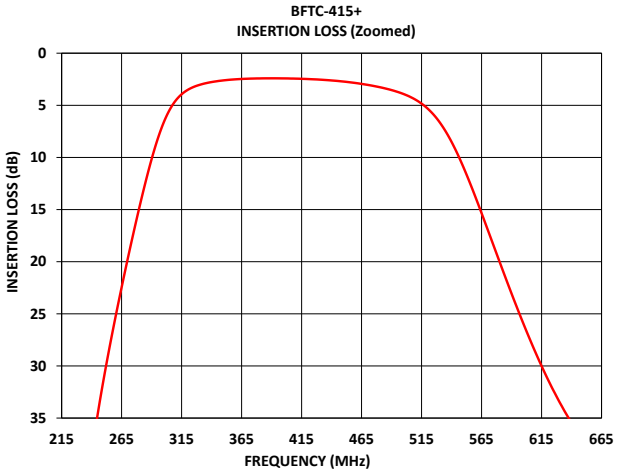
Bandpass Filter

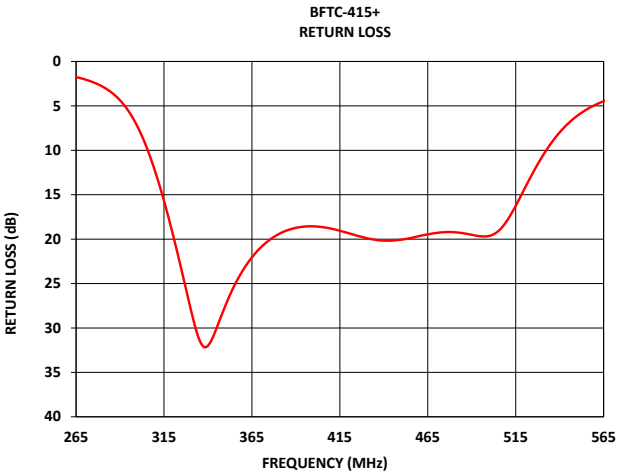
BFTC-415+

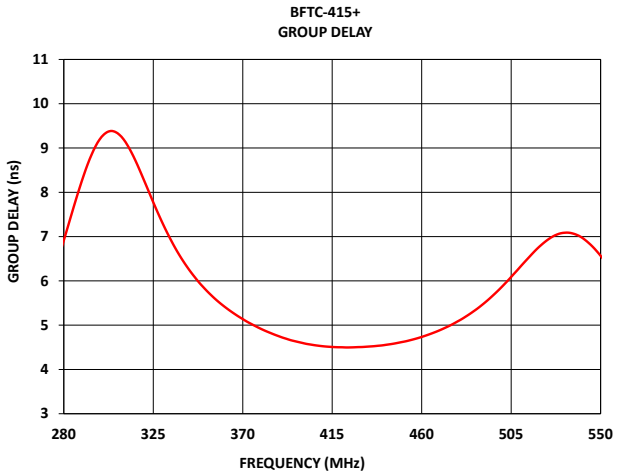
50Ω 330 to 500 MHz

TYPICAL PERFORMANCE GRAPHS









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FUNCTIONAL DIAGRAM

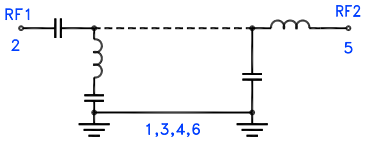
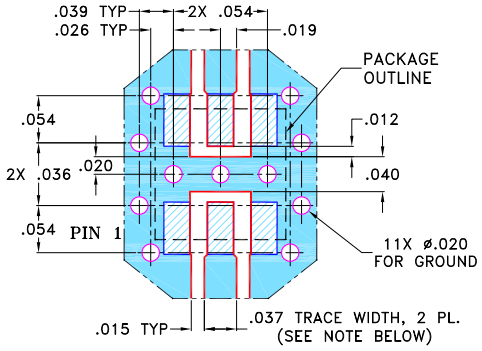


Figure 1. BFTC-415+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF1	2	Connects to RF Input Port
RF2	5	Connects to RF Output Port
GROUND	1,3,4,6	Connects to Ground on PCB, (See drawing PL-112)

SUGGESTED PCB LAYOUT (PL-112)



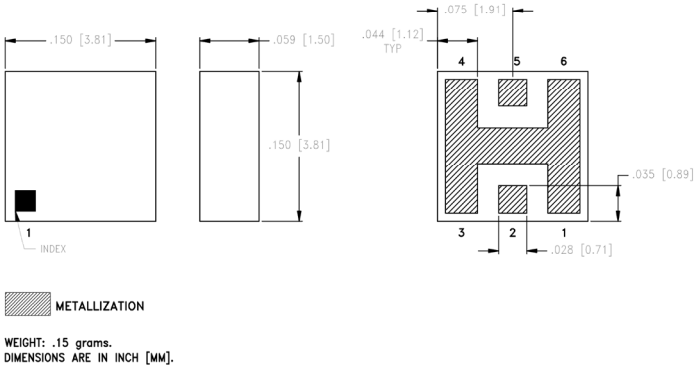
NOTES: 1.TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2.BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Figure 2. Suggested PCB Layout

CASE STYLE DRAWING



WEIGHT: .15 grams.
DIMENSIONS ARE IN INCH [MM].

PRODUCT MARKING*: L347

*Marking may contain other features or characters for internal lot control.

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50 330 to 500 MHz

ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD. CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	FR933-1 Lead Finish: Palladium Silver
RoHS Status	Compliant
Tape and Reel	F68
Suggested Layout for PCB Design	PL-112
Evaluation Board	TB-BFTC-415+ Gerber File
Environmental Rating	ENV02T1

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-Circuits' 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/terms/viewterm.html