

Ceramic

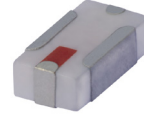
# Bandpass Filter

**BFCN-2500AT+**

50Ω     2100 to 2900 MHz

## The Big Deal

- LTCC construction
- Temperature stable from -40 to +105°C
- Small size (0.126 x .063 X .037")
- AEC-Q200 qualified component family



CASE STYLE: FV1206-4

## Product Overview

## Key Features

Feature	Advantages
LTCC Construction	Provides a rugged package well suited for tough environments such as high humidity and temperature extremes.
Tiny size (0.126 x .063 x .037")	Saves space in dense circuit boards and minimizes the effects of parasitics.
Wrap-around terminations	Provides excellent solderability and easy visual inspection
Wide operating temperature range, -40 to +105°C	Enables reliable performance in extreme environments

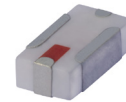


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# Bandpass Filter

50Ω 2100 to 2900 MHz

BFCN-2500AT+



Generic photo used for illustration purposes only

## Features

- Good VSWR, 1.8:1 typ. @ passband
- Small size (0.126 x .063 x .037)
- Temperature stable
- LTCC construction
- AEC-Q200 qualified component family

## Applications

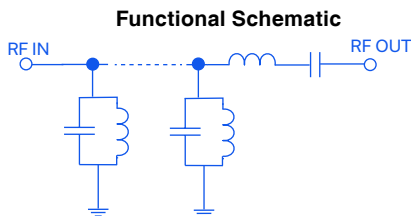
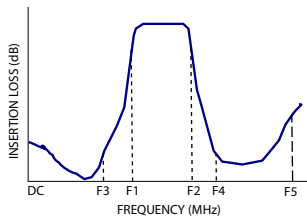
- Automotive

**+RoHS Compliant**

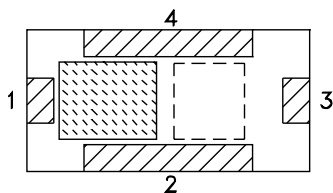
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



## Specification Definition



## Top View



## Pad Connections

Input	1
Output	3
Ground	2,4

## Electrical Specifications<sup>1,2</sup> at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
<b>Pass Band</b>	Center Frequency	—		2500		MHz
	Insertion Loss	F1 - F2	—	2	3.7	dB
	VSWR	F1 - F2	—	1.8	2.6	:1
<b>Stop Band, Lower</b>	Insertion Loss	DC - F3	—	20	—	dB
	VSWR	DC - F3	—	20	—	:1
<b>Stop Band, Upper</b>	Insertion Loss	F4 - F5	—	20	—	dB
	VSWR	F4 - F5	—	15	—	:1

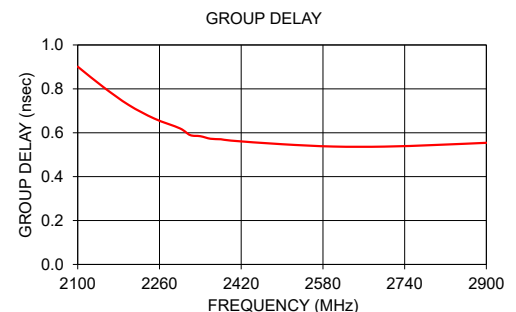
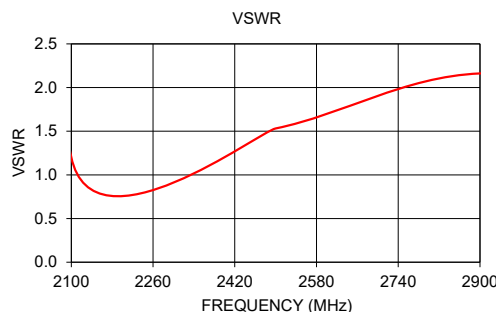
1. Measured on Mini-Circuits Characterization Test Board TB-824+ using BFCN-2500+.

2. This filter is not intended for use as a DC Blocking circuit element. In Application where DC voltage is present at either input or output ports, blocking capacitors are required at the corresponding RF port.

## Maximum Ratings

Operating Temperature	-40°C to +105°C
Storage Temperature	-40°C to +105°C
RF Power Input*	2.5 W at +25°C

\*Passband rating, derate linearly to 0.7 W at +105°C ambient  
Permanent damage may occur if any of these limits are exceeded.



# Bandpass Filter

# BFCN-2500AT+

## Full Band Performance

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Insertion Loss (dB)	Group Delay (nsec)
10	58.18	79.99	2100	1.88	0.90
40	84.01	78.80	2150	1.70	0.81
100	69.04	74.42	2200	1.63	0.73
400	45.88	61.11	2250	1.60	0.66
1000	34.16	43.74	2300	1.60	0.62
1500	33.62	29.10	2320	1.60	0.59
2100	1.88	1.20	2340	1.60	0.58
2500	1.65	1.53	2360	1.61	0.57
2900	2.41	2.16	2380	1.61	0.57
3400	4.69	1.76	2400	1.62	0.56
3800	27.88	14.98	2500	1.65	0.55
4200	39.01	20.59	2600	1.74	0.54
4600	33.90	20.73	2700	1.89	0.54
5000	42.09	11.56	2800	2.11	0.54
5200	28.75	6.04	2900	2.41	0.55

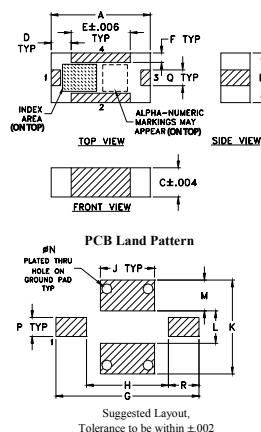
## Pass Band Performance

### Pad Connections

Input	1
Output	3
Ground	2,4

## Product Marking:

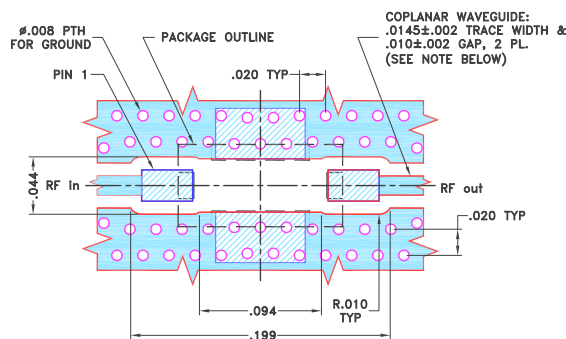
### Outline Drawing



### Outline Dimensions ( inch mm )

A	B	C	D	E	F	G	H	J
.126	.063	.037	.026	.075	.012	.182	.104	.069
3.20	1.60	0.94	0.66	1.91	0.30	4.62	2.64	1.75
K	L	M	N	P	Q	R		wt
.119	.041	.039	.013	.024	.020	.039		grams
3.02	1.04	0.99	0.33	0.61	0.51	0.99		.020

### Demo Board MCL P/N: TB-824+ Suggested PCB Layout (PL-454)



#### NOTES:

1. TRACE WIDTH PARAMETERS ARE SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .0066"±.0007". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND 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.

#### 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/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)

