

# Surface Mount Band Stop Filter

## BSF-C174223+

50Ω 174 to 223 MHz

### The Big Deal

- High rejection, 44 dB typical
- Good VSWR, 1.3:1 typical in passband
- Stopband (174 to 223 MHz)
- Miniature shielded package



CASE STYLE: HU1186

### Product Overview

The BSF-C174223+ is stopband filter fabricated using SMT Technology. Covering 174 to 223 MHz stopband, this units offer good rejection. This unit uses a miniature high Q capacitors and wire welded inductors for high reliability. It has repeatable performance across production lots and consistent performance across temperature.

### Key Features

Feature	Advantages
High rejection, 44 dB typical	BSF-C174223+ enables the filter to attenuate spurious signals and reject harmonics for broadband of frequencies.
Good VSWR, 1.3:1 typical in the passband	This filter maintains typical VSWR over a passband frequency range which provided good interface when used with other devices.
Shielded package	Shielded package (Size of .087" x 0.80" x 0.25") reduced interface with and from the surrounding components.

#### 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](http://www.minicircuits.com/MCLStore/terms.jsp)



# Surface Mount Band Stop Filter

## BSF-C174223+

50Ω 174 to 223 MHz



CASE STYLE: HU1186

### Features

- High rejection, 44 dB typical
- Good VSWR, 1.3:1 typical in passband
- Aqueous washable
- Miniature shield package

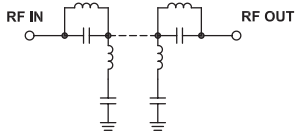
### Applications

- FM radio
- Receivers / Transmitters
- Lab use

### Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band, Lower	Insertion Loss	DC-F1	DC - 130	-	0.6	1.2	dB
	VSWR	DC-F1	DC - 130	-	1.3	1.7	:1
Stop Band	Rejection	F4-F5	174-223	30	44	-	dB
	VSWR	F4-F5	174-223	-	6	-	:1
Pass Band, Upper	Insertion Loss	F2-F3	330-1000	-	0.6	1.2	dB
	VSWR	F2-F3	330-1000	-	1.3	1.7	:1

### Functional Schematic



### Maximum Ratings

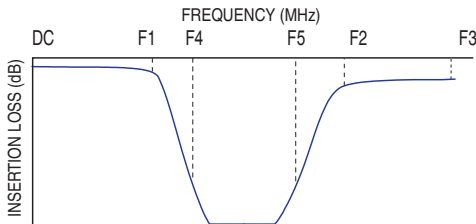
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	250 mW max.

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

### Typical Performance Data at 25°C

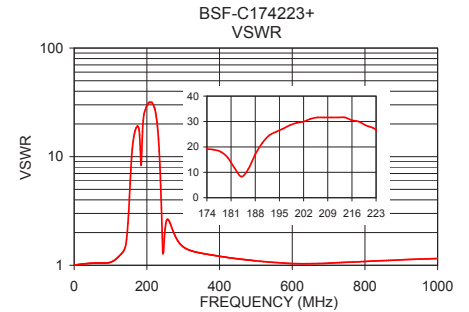
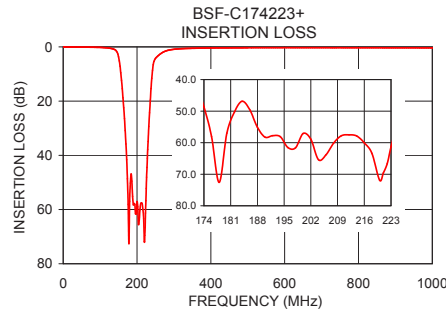
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
1.0	0.02	1.00
5.0	0.02	1.01
30.0	0.08	1.03
88.0	0.16	1.03
114.0	0.30	1.13
130.0	0.58	1.26
150.0	3.67	2.58
160.0	15.42	8.77
168.0	30.86	13.81
174.0	48.66	16.72
200.0	57.09	14.50
223.0	61.29	22.29
228.0	41.06	18.30
238.0	15.37	7.73
254.0	3.66	2.90
280.0	1.42	1.52
330.0	0.61	1.20
500.0	0.32	1.08
800.0	0.33	1.11
1000.0	0.39	1.18

### Typical Frequency Response



### +RoHS Compliant

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



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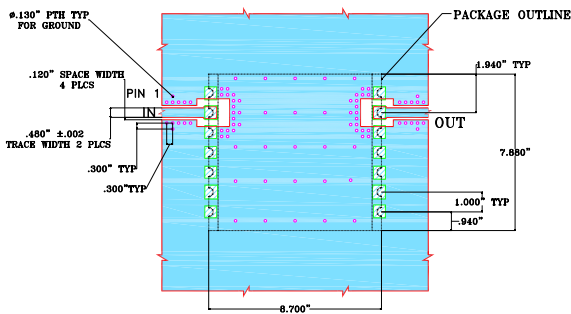
[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. A  
M160153  
BSF-C174223+  
EDU1290  
URJ/NY  
161230  
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## Pin Connections

INPUT	2
OUTPUT	13
NOT CONNECTED	6,9
GROUND	1,3,4,5,7,8,10,11,12,14

## Demo Board MCL P/N: TB-378+ Suggested PCB Layout (PL-347)

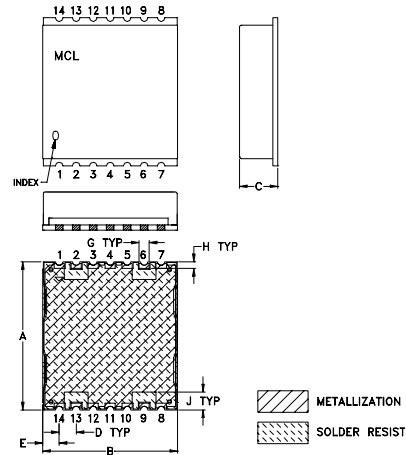


### NOTES:

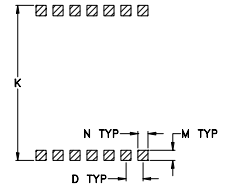
- TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .030"±.003". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

## Outline Drawing



## PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

## Outline Dimensions ( inch / mm)

A	B	C	D	E	F	G	H
.870	.800	.25	.100	.097	--	.060	.040
22.10	20.32	6.35	2.54	2.46	--	1.52	1.02
J	K	L	M	N	P	wt	
.105	.910	--	.060	.060	--	grams	
2.67	23.11	--	1.52	1.52	--	2.85	

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