Ceramic

LTCC Bandpass Filter BPNL-1891+

50Ω 1790 to 2000 MHz

The Big Deal

- Small size 2.5mm x 2.0mm
- Low loss in passband (2.6 dB typ)
- Very high rejection over wide band

CASE STYLE: NL1008C-3

Product Overview

The BPNL-1891+ LTCC bandpass filter achieves a miniature size and high repeatability of performance. Wrap-around terminations minimize variations in performance due to parasitics. Passing 1790-2000 MHz, these units offer excellent rejection over a wide stopband.

Key Features

Feature	Advantages
Small Size (2.5mm x2.0 mm)	Allows for high layout density of circuit boards, while minimizing effects of parasitics.
Transmission zero at 2nd harmonic within wide stopband	Provides good rejection of harmonic signals, for improved system performance.
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.

Ceramic

LTCC Bandpass Filter

BPNL-1891+

50Ω 1790 to 2000 MHz

Generic photo used for illustration purposes only

CASE STYLE: NL1008C-3

+RoHS Compliant

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

Features

- Small size
- Temperature stable
- Hermetically sealed
- LTCC construction
- Wide stopband

Applications

- Harmonic Rejection
- Transmitters / Receivers
- Test and Measurement

Electrical Specifications at 25°C

Parameter		Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	1890	—	MHz
	Insertion Loss	1790 - 2000	—	2.6	3.5	dB
	VSWR	1790 - 2000	—	1.5	—	:1
Stop Band, Lower	Insertion Loss	DC - 1090	27	36	—	dB
Stop Band, Upper	Insertion Loss	2615 - 5935	27	33	—	dB

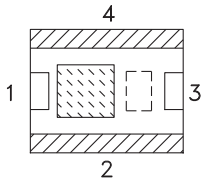
1. Measured on Mini-Circuits Characterization Test Board TB-1086+ with feedline losses removed using Auto Port Extension feature of VNA.
2. This filter is not intended for use as a DC Blocking circuit element. In Application where DC voltage is present at either input or output ports, blocking capacitors are required at the corresponding RF port.

Maximum Ratings

Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
RF Power Input*	1W at 25°C

*Passband rating, derate linearly to 0.5W at 100°C ambient
Permanent damage may occur if any of these limits are exceeded.

Top View



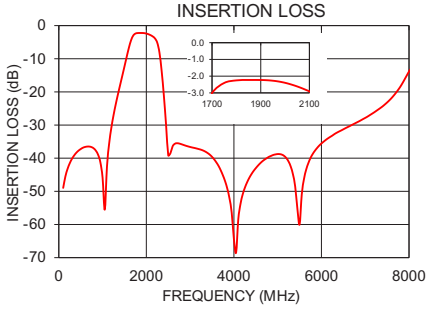
Pad Connections

Input	1
Output	3
Ground	2,4

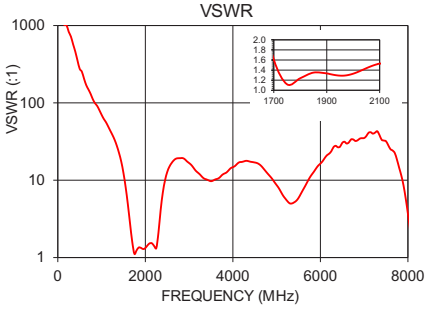
Typical Performance Data at 25°C

Frequency (GHz)	Insertion Loss (dB)	VSWR (:1)
400	-38.36	459.57
600	-36.61	205.12
1200	-30.84	43.55
1500	-12.33	12.42
1700	-3.01	1.61
1750	-2.41	1.12
1900	-2.23	1.33
2000	-2.40	1.33
2100	-2.91	1.53
2600	-36.41	16.66
3500	-39.59	9.71
4500	-43.01	16.95
5000	-38.75	8.65
6000	-35.56	16.38
7000	-27.84	35.08

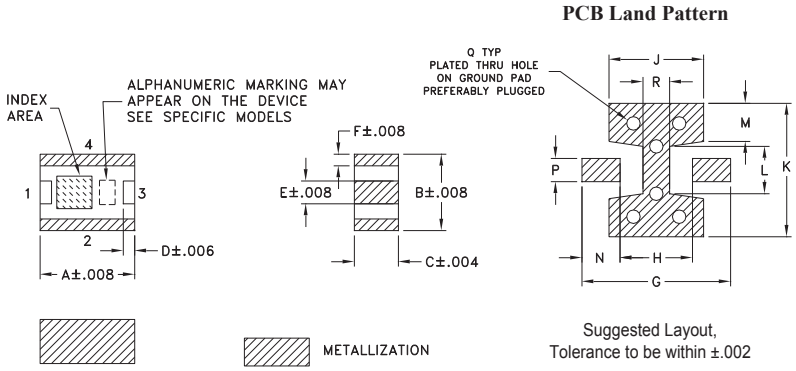
BPNL-1891+
INSERTION LOSS



BPNL-1891+
VSWR



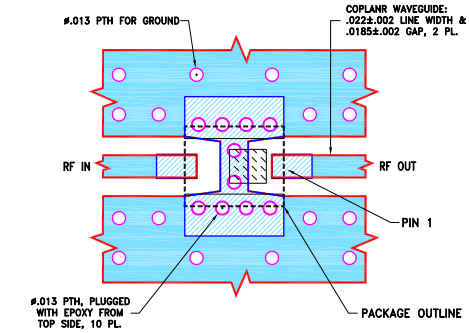
Outline Drawing



PCB Land Pattern

Suggested Layout,
Tolerance to be within ±.002

Demo Board MCL P/N: TB-1086+
Suggested PCB Layout (PL-617)



NOTES:
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010±.001. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS LINE 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.

Product Marking: KW

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.098	.079	.046	.012	.024	.012	.154	.075	.098
2.49	2.01	1.17	0.30	0.61	0.30	3.91	1.91	2.49

K	L	M	N	P	Q	R		wt
.138	.055	.041	0.039	0.024	0.014	0.028		grams
3.51	1.40	1.04	0.99	0.61	0.36	0.71		.019

Additional 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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Mini-Circuits:

BPNL-1891+