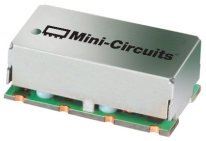
Surface Mount

Bandpass Filter

SXBP-1940+

50Ω 1710 to 2170 MHz



Generic photo used for illustration purposes only

CASE STYLE: HF1139

The Big Deal

- Fast roll-off on the upper sideband
- Good Matching and low loss in the pass band
- Miniature shielded package

Product Overview

SXBP-1940+ is a wideband bandpass filter in a miniature shielded package covering 1710 to 2170 MHz. This is designed for asymmetric rejection applications such as super-heterodyne receivers. By having asymmetric band, faster roll-off at upper side band is achieved in a comparatively smaller package and lower pass band insertion loss. It has repeatable performance across lots and consistent performance across temperature.

Key Features

Feature	Advantages
Fast roll-off on the upper side band	Wide bandwidth filter with fast-roll off on the upper side band, which increases selectivity on the adjacent channel.
Good matching and low loss in pass band	This filter has good matching and low loss in the pass band
Small size, 0.44" X 0.74" X 0.27"	The surface mount package enables the SXBP-1940+ to be used in compact designs.
High power handling	This model uses high Q capacitors and high current handling inductors which is well suited for high power applications.

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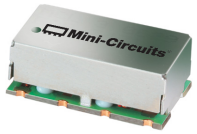


Generic photo used for illustration purposes only

CASE STYLE: HF1139

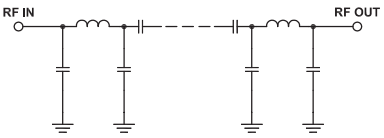
Features

- Fast roll-off on the upper side band
- Good matching in the pass band
- Miniature shielded package

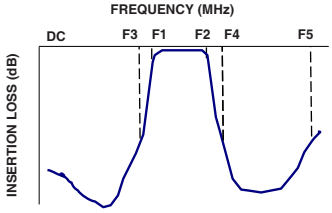
Applications

- Defense systems
- Cable TV relay
- DECT, GSM and IMT
- Mobile satellite
- Private and public land mobile
- PCS Broadband

Functional Schematic



Typical Frequency Response



+RoHS Compliant

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

Electrical Specifications at 25°C

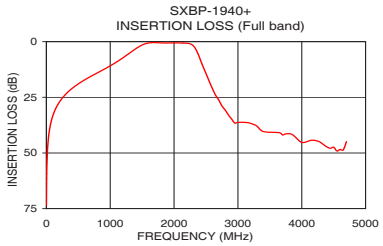
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	-	1940	-	MHz
	Insertion Loss	F1-F2	1710-2170	-	1	2.0	dB
	VSWR	F1-F2	1710-2170	-	1.3	1.78	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-145	20.0	30.0	-	dB
	VSWR	DC-F3	DC-145	-	20.0	-	:1
Stop Band, Upper	Insertion Loss	F4-F5	2900-4700	20.0	28.0	-	dB
	VSWR	F4-F5	2900-4700	-	10.0	-	:1

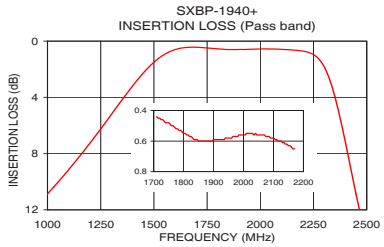
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	8 W max.

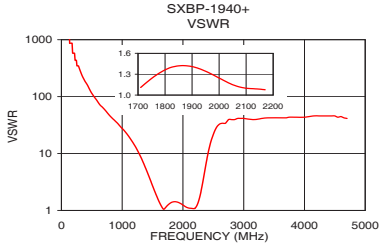
Permanent damage may occur if any of these limits are exceeded.

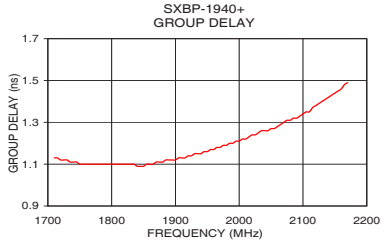
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	73.65	1737.18	1710	1.13
5	59.44	1737.18	1750	1.10
55	38.58	1737.18	1780	1.10
145	30.12	868.59	1800	1.10
430	20.39	157.93	1820	1.10
1030	10.36	25.56	1840	1.09
1280	5.63	9.90	1860	1.10
1400	3.18	5.09	1880	1.11
1500	1.50	2.71	1900	1.12
1580	0.71	1.66	1920	1.14
1710	0.44	1.11	1940	1.15
1940	0.58	1.36	1960	1.17
2170	0.65	1.08	1980	1.19
2290	1.57	1.99	2000	1.21
2335	3.15	3.52	2020	1.24
2385	6.15	7.08	2040	1.26
2500	14.35	21.73	2060	1.28
2900	34.71	41.37	2100	1.34
3400	40.38	42.38	2150	1.44
4700	44.89	41.37	2170	1.49









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.

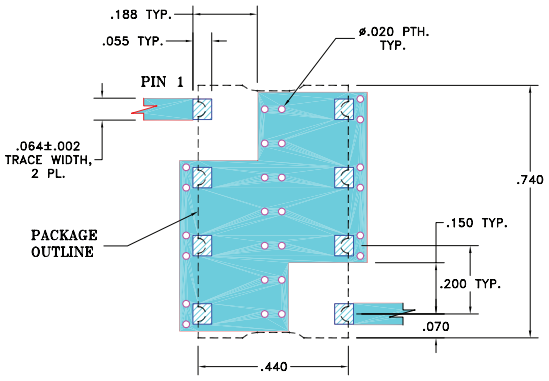
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

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

Pad Connections

INPUT	1
OUTPUT	8
GROUND	2,3,4,5,6,7

Demo Board MCL P/N: TB-368+
Suggested PCB Layout (PL-230)



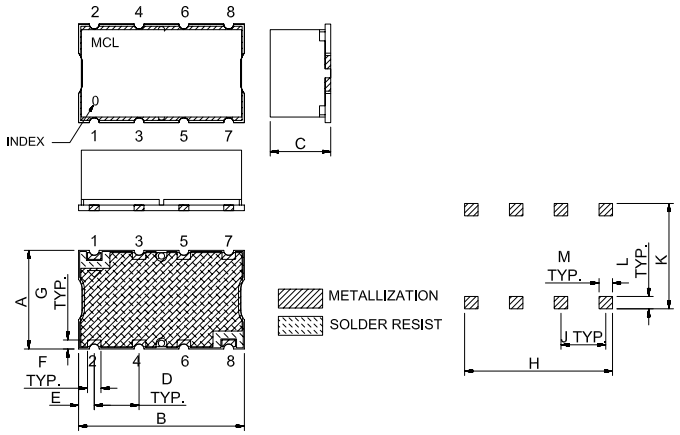
NOTE:

1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS: .025"±.002". 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

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.44	.74	.27	.200	.07	.060	.040
11.18	18.80	6.86	5.08	1.78	1.52	1.02
H	J	K	L	M		wt
.660	.200	.470	.055	.060		grams
16.76	5.08	11.94	1.40	1.52		3.0

Note: Please refer to case style drawing for details