Surface Mount

Low Pass Filter

SXLP-3+

50Ω DC to 3 MHz

CASE STYLE: HF1139

The Big Deal

- Low frequency, DC-3 MHz
- Fast roll-off
- Good VSWR, 1.2:1 typical
- Miniature shielded package

Product Overview

SXLP-3+ is a 50Ω lowpass filter fabricated using SMT technology. This lowpass filter covers from DC-3 MHz bandwidth, these units offer good matching within the passband and high rejection. This units uses a miniature high Q capacitors and wire welded inductors for high reliability. In addition it has repeatable performance across production lots and consistent performance across temperature.

Key Features

Feature	Advantages
Low frequency and fast roll-off	This is a low frequency filter and this will also attenuate frequencies closed to the passband with good rejection value of >20 dB.
Good VSWR, 1.2:1 typical in pass-band	The SXLP-3+ has very good return loss for a low frequency bandwidth and provides good interface when used with other devices.
Small size, 0.44" x 0.74" x 0.27"	The small surface mount package enables the SXLP-3+ to be used in compact designs.

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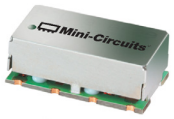


CASE STYLE: HF1139

Features

- High rejection (30 dB typical)
- Sharp cut-off
- Aqueous washable
- Miniature shielded package

Applications

- Receivers/transmitters
- Defense communications
- Harmonic rejection

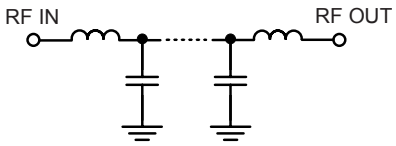
Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC-3	—	0.8	1.5	dB
	Freq. Cut-Off	F2	3.5	—	3.5	—	dB
	VSWR	DC-F1	DC-3	—	1.2	1.6	:1
Stop Band	Rejection Loss	F3-F4	4.6-800	20	30	—	dB
	VSWR	F3-F4	4.6-800	—	35	—	:1

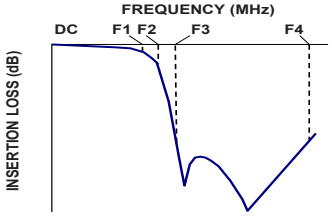
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.

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

Functional Schematic



Typical Frequency Response

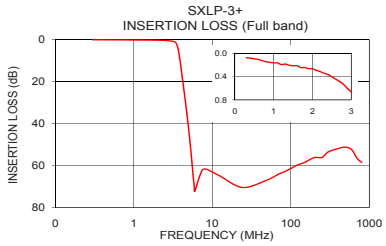


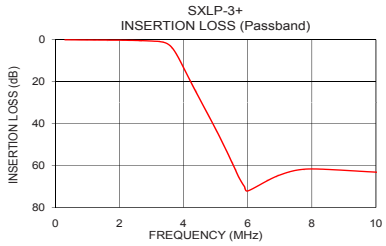
Typical Performance Data at 25°C

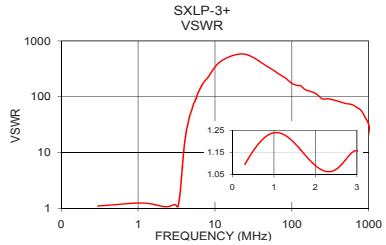
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
0.3	0.07	1.10	0.30	197.09
1.0	0.16	1.24	0.50	197.65
2.3	0.34	1.06	0.60	198.37
3.0	0.66	1.16	0.70	199.16
3.4	1.37	1.30	0.80	199.72
3.5	2.01	1.75	1.00	202.52
3.7	5.07	4.10	1.20	206.51
4.0	13.39	13.60	1.30	209.71
4.4	25.33	30.49	1.50	216.35
4.6	31.09	40.41	1.60	219.74
5.0	42.66	57.91	1.70	224.10
12.0	64.62	434.30	1.80	228.78
48.0	67.17	347.44	1.90	233.71
82.0	63.02	217.15	2.00	238.97
100.0	61.46	173.72	2.20	252.37
250.0	56.13	91.43	2.40	268.63
300.0	53.53	91.43	2.50	278.29
600.0	52.51	72.39	2.70	301.70
700.0	56.57	64.35	2.80	315.66
800.0	58.52	56.04	3.00	355.50

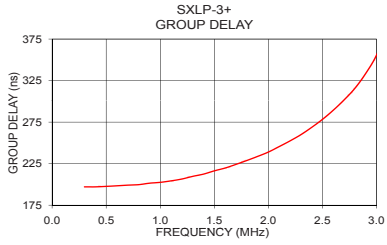
+RoHS Compliant

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









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.
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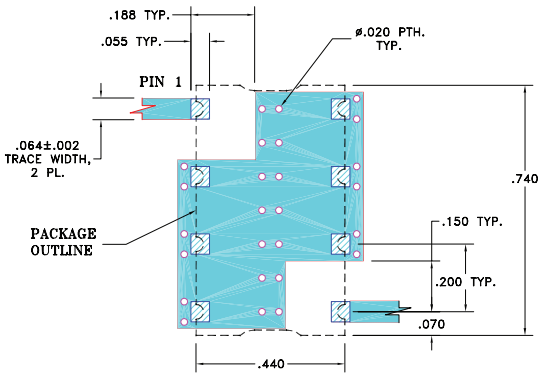
Pad Connections

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

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



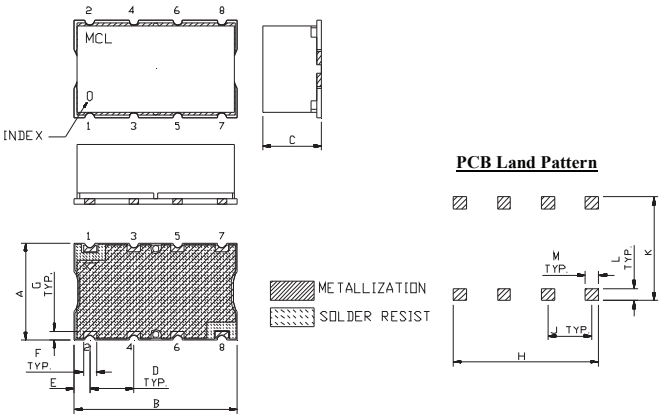
NOTE:

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

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