

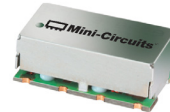
Surface Mount Low Pass Filter

SXLP-1100+

50Ω DC to 1100 MHz

The Big Deal

- Wide stopband Rejection, (>20 dB till 8.5 GHz)
- Good VSWR, 1.3:1 typical
- High rejection, 40 dB typical
- Flat Group delay, 1 ns typical



CASE STYLE: HF1139

Product Overview

SXLP-1100+ is a 50Ω lowpass filter in a shielded Package (size of 0.44" x 0.74" x 0.27") fabricated using SMT technology. Covering up to 1100 MHz, these units offers low insertion loss, good matching within the passband and high rejection. This units uses a miniature high Q capacitors and air coil inductors for high reliability. In addition it has repeatable performance across production lots and consistent performance across temperature.

Key Features

| Feature | Advantages |
|---|--|
| Wide stopband (> 20 dB till 8.5 GHz) | Suitable for application which needs far-frequency attenuation, for e.g. Defense Communications. |
| Good VSWR, 1.3:1 typical over passband | The model has very good return loss which provides good matching when used with other devices. |
| High Rejection, 40 dB typical | This enables the filter to attenuate harmonics and spurious signals. |
| Flat Group delay characteristics (1 ns typical) | The model has a flat group delay of 1 ns which helps in reducing the signal distortion. |

Notes

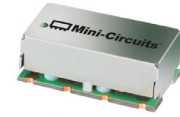
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50Ω DC to 1100 MHz



CASE STYLE: HF1139

Features

- Flat group delay, 1 ns typical over passband
- Wide stopband rejection, (>20dB till 8.5 GHz)
- Good VSWR, 1.3 typical in passband
- High rejection, 40 dB typical
- Shielded case
- Aqueous washable

Applications

- Cable TV
- Receivers/transmitters
- Defense communications
- Harmonic rejection

Electrical Specifications at 25°C

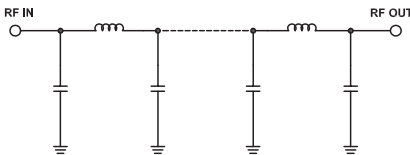
| Parameter | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit | |
|------------------|----------------|-----------------|-------------|------|------|------|----|
| Pass Band | Insertion Loss | DC-F1 | DC - 1100 | — | 0.9 | 1.5 | dB |
| | Freq. Cut-Off | F2 | 1225 | — | 3.5 | — | dB |
| | VSWR | DC-F1 | DC - 1100 | — | 1.3 | 1.7 | :1 |
| Stop Band | Rejection Loss | F3-F4 | 1440 - 8500 | 20 | 35 | — | dB |
| | VSWR | F3-F4 | 1440 - 8500 | — | 7 | — | :1 |

Maximum Ratings

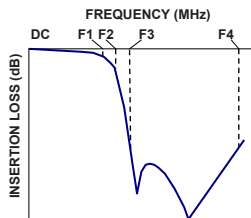
| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input | 1W max. |

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

Functional Schematic



Typical Frequency Response

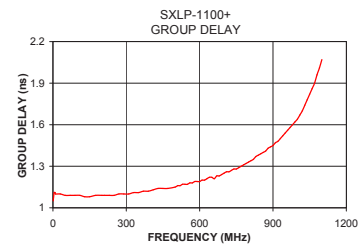
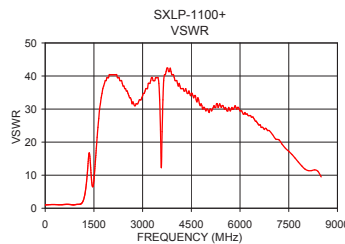
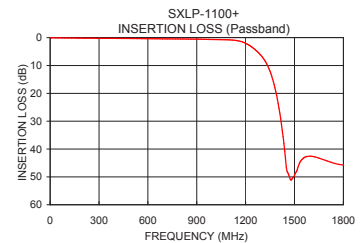
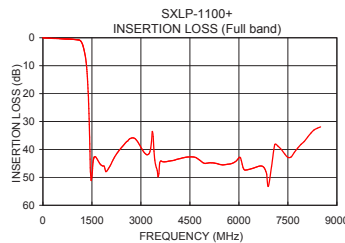


Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) | Frequency (MHz) | Group Delay (nsec) |
|-----------------|---------------------|-----------|-----------------|--------------------|
| 1.0 | 0.02 | 1.00 | 1.00 | 1.05 |
| 30.0 | 0.05 | 1.02 | 5.00 | 1.11 |
| 70.0 | 0.09 | 1.04 | 10.00 | 1.10 |
| 230.0 | 0.20 | 1.12 | 50.00 | 1.09 |
| 650.0 | 0.39 | 1.16 | 70.00 | 1.09 |
| 1100.0 | 0.84 | 1.30 | 150.00 | 1.08 |
| 1180.0 | 2.00 | 2.51 | 200.00 | 1.09 |
| 1225.0 | 3.71 | 4.35 | 250.00 | 1.09 |
| 1250.0 | 5.02 | 5.95 | 350.00 | 1.11 |
| 1290.0 | 7.73 | 9.63 | 410.00 | 1.13 |
| 1350.0 | 15.58 | 16.56 | 450.00 | 1.14 |
| 1400.0 | 28.98 | 12.26 | 500.00 | 1.15 |
| 1420.0 | 36.47 | 9.43 | 550.00 | 1.17 |
| 1440.0 | 44.14 | 7.34 | 600.00 | 1.19 |
| 1550.0 | 38.36 | 14.62 | 700.00 | 1.25 |
| 3000.0 | 39.92 | 34.07 | 800.00 | 1.33 |
| 5000.0 | 45.67 | 29.96 | 900.00 | 1.45 |
| 6500.0 | 46.93 | 26.33 | 1000.00 | 1.64 |
| 7500.0 | 45.97 | 17.22 | 1050.00 | 1.82 |
| 8500.0 | 30.83 | 9.48 | 1100.00 | 2.07 |

+RoHS Compliant

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



Notes

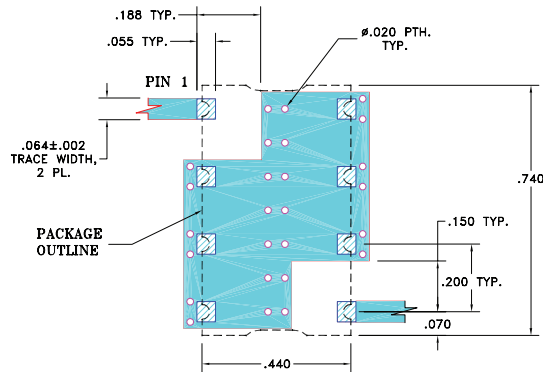
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Pad Connections

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

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

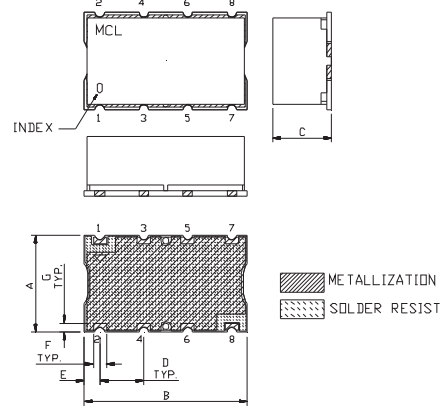


NOTE:

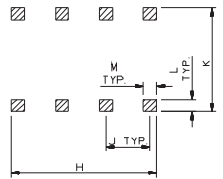
- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS: .025" ± .002". COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

Outline Drawing



PCB Land Pattern



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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