

# Low Pass Filter

50Ω DC to 23 MHz

## 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.

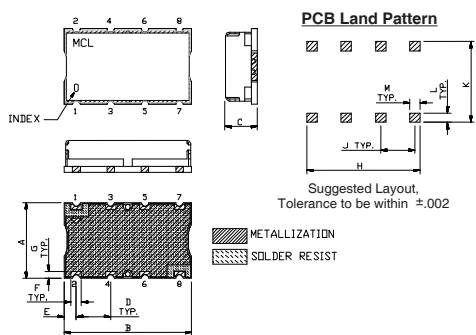
## Pin Connections

INPUT 1

OUTPUT 8

GROUND 2, 3, 4, 5, 6, 7

## Outline Drawing



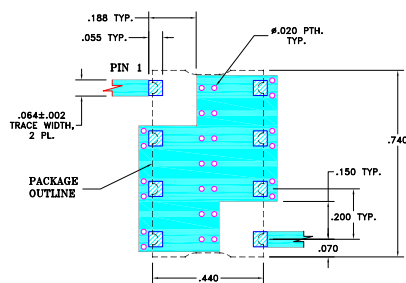
## Outline Dimensions (inch/mm)

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

Note: Please refer to case style drawing for details

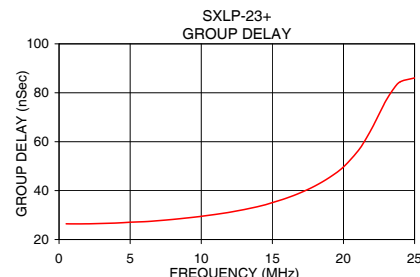
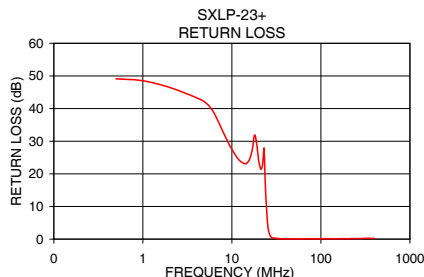
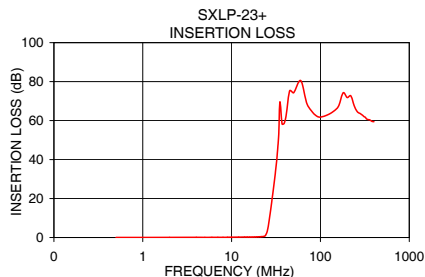
Demo Board MCL P/N: TB-368

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



### Notes

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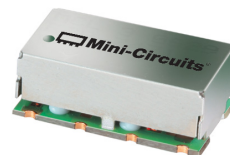
## Features

- high rejection
- sharp cut-off
- shielded package
- aqueous washable
- low cost

## Applications

- defense communications
- receivers / transmitters
- harmonic rejection

SXLP-23+



Generic photo used for illustration purposes only  
CASE STYLE: HF1139

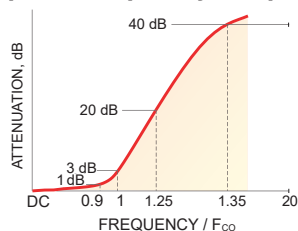
### +RoHS Compliant

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

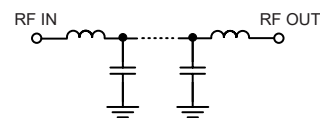
## Low Pass Filter Electrical Specifications (T<sub>AMB</sub> = 25°C)

| PASSBAND (MHz) | f <sub>co</sub> , MHz Nom. | STOPBAND (MHz) |               | VSWR (:1)     |               |
|----------------|----------------------------|----------------|---------------|---------------|---------------|
|                |                            | (Loss > 20dB)  | (Loss > 40dB) | Passband Typ. | Stopband Typ. |
| DC - 23        | 25                         | 31 - 34        | 34 - 500      | 1.5           | 18            |

## Typical Frequency Response



## Functional Schematic



## Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) |          | Return Loss (dB) | Frequency (MHz) | Group Delay (nSec) |
|-----------------|---------------------|----------|------------------|-----------------|--------------------|
|                 | $\bar{x}$           | $\sigma$ |                  |                 |                    |
| 0.5             | 0.05                | 0.01     | 49.11            | 0.5             | 26.41              |
| 5.0             | 0.08                | 0.00     | 41.94            | 1.0             | 26.39              |
| 10.0            | 0.15                | 0.00     | 27.54            | 2.0             | 26.41              |
| 20.0            | 0.35                | 0.01     | 24.09            | 4.0             | 26.73              |
| 23.0            | 0.58                | 0.02     | 27.90            | 5.0             | 27.08              |
| 24.0            | 1.00                | 0.03     | 13.75            | 6.0             | 27.29              |
| 25.0            | 2.70                | 0.08     | 5.80             | 8.0             | 28.23              |
| 25.5            | 4.30                | 0.13     | 3.58             | 9.0             | 28.84              |
| 26.0            | 6.42                | 0.17     | 2.22             | 10.0            | 29.50              |
| 27.0            | 11.43               | 0.23     | 0.96             | 12.0            | 31.15              |
| 29.0            | 22.00               | 0.33     | 0.35             | 12.0            | 31.15              |
| 31.0            | 32.70               | 0.46     | 0.22             | 14.0            | 33.48              |
| 34.0            | 53.83               | 1.49     | 0.14             | 16.0            | 36.94              |
| 50.0            | 74.31               | 2.19     | 0.07             | 18.0            | 41.92              |
| 100.0           | 61.81               | 0.99     | 0.08             | 19.0            | 45.32              |
| 200.0           | 71.86               | 1.85     | 0.14             | 20.0            | 49.68              |
| 300.0           | 62.65               | 1.37     | 0.20             | 22.0            | 65.49              |
| 400.0           | 59.44               | 1.01     | 0.22             | 23.0            | 76.93              |
| 500.0           | 68.98               | 1.95     | 0.24             | 25.0            | 86.06              |

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