

# Low Pass Filter

50Ω DC to 450 MHz

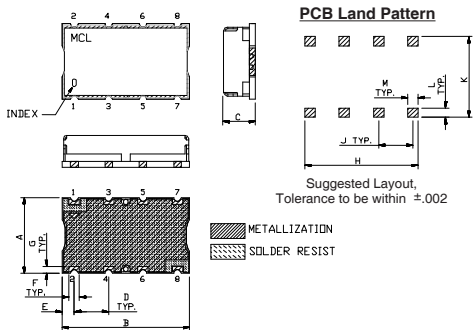
## Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| 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



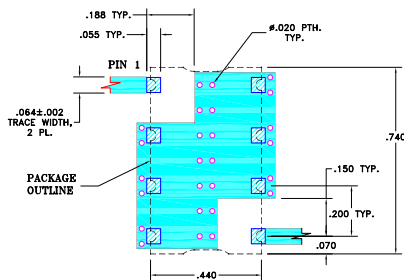
## Outline Dimensions (inch/mm)

| 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    | grams |
| .040  | .660  | .200 | .470  | .055 | .060 |       |
| 1.02  | 16.76 | 5.08 | 11.94 | 1.40 | 1.52 |       |

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



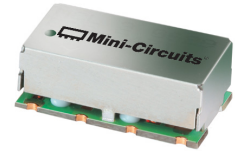
## Features

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

## Applications

- defense communications
- receivers / transmitters
- harmonic rejection

SXLP-450+



Generic photo used for illustration purposes only  
CASE STYLE: HF1139

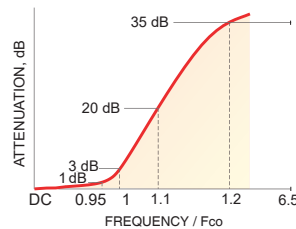
## +RoHS Compliant

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

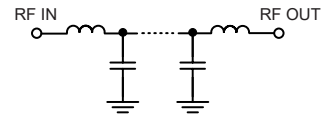
## Low Pass Filter Electrical Specifications (T<sub>AMB</sub> = 25°C)

| PASSBAND<br>(MHz) | f <sub>co</sub> , MHz<br>Nom. | STOPBAND<br>(MHz) |               | VSWR (:1)        |                  |
|-------------------|-------------------------------|-------------------|---------------|------------------|------------------|
|                   |                               | (Loss > 20dB)     | (Loss > 35dB) | Passband<br>Typ. | Stopband<br>Typ. |
| DC - 450          | 465                           | 495 - 545         | 545 - 3000    | 1.2              | 18               |

## Typical Frequency Response

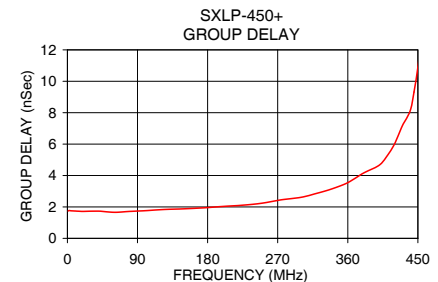
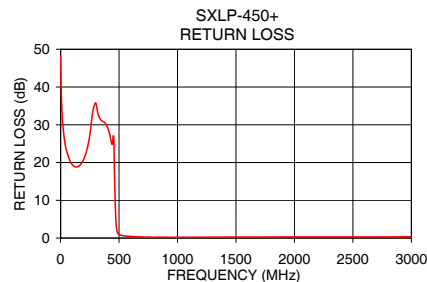


## Functional Schematic



## Typical Performance Data at 25°C

| Frequency<br>(MHz) | Insertion Loss<br>(dB) |          | Return Loss<br>(dB) | Frequency<br>(MHz) | Group Delay<br>(nSec) |
|--------------------|------------------------|----------|---------------------|--------------------|-----------------------|
|                    | $\bar{x}$              | $\sigma$ |                     |                    |                       |
| 1.0                | 0.03                   | 0.01     | 48.18               | 1.0                | 1.77                  |
| 10.0               | 0.07                   | 0.00     | 34.98               | 5.0                | 1.77                  |
| 100.0              | 0.20                   | 0.01     | 19.45               | 10.0               | 1.75                  |
| 340.0              | 0.44                   | 0.01     | 31.46               | 20.0               | 1.74                  |
| 420.0              | 0.82                   | 0.01     | 27.57               | 40.0               | 1.72                  |
| 450.0              | 1.37                   | 0.06     | 27.11               | 80.0               | 1.66                  |
| 460.0              | 2.10                   | 0.18     | 18.56               | 100.0              | 1.71                  |
| 465.0              | 3.09                   | 0.36     | 11.59               | 150.0              | 1.84                  |
| 470.0              | 5.05                   | 0.69     | 6.74                | 200.0              | 1.94                  |
| 475.0              | 8.28                   | 1.08     | 3.79                | 225.0              | 2.03                  |
| 485.0              | 17.78                  | 1.67     | 1.61                | 250.0              | 2.11                  |
| 495.0              | 30.87                  | 2.45     | 1.08                | 275.0              | 2.24                  |
| 545.0              | 60.30                  | 2.92     | 0.61                | 320.0              | 2.61                  |
| 870.0              | 43.60                  | 0.28     | 0.23                | 340.0              | 2.86                  |
| 1000.0             | 45.55                  | 0.23     | 0.21                | 380.0              | 3.55                  |
| 1500.0             | 55.39                  | 0.53     | 0.27                | 400.0              | 4.15                  |
| 2000.0             | 71.89                  | 8.60     | 0.31                | 420.0              | 5.22                  |
| 2500.0             | 56.48                  | 0.20     | 0.30                | 440.0              | 7.16                  |
| 3000.0             | 46.48                  | 0.24     | 0.36                | 450.0              | 9.31                  |



## Notes

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