

# Surface Mount Low Pass Filter

50Ω DC to 865 MHz

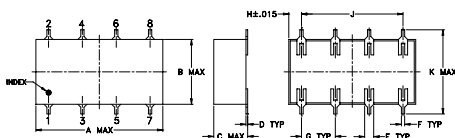
## Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -40°C to 85°C  |
| Storage Temperature                                             | -55°C to 100°C |
| Power Input                                                     | 0.5W max.      |
| Permanent damage may occur if any of these limits are exceeded. |                |

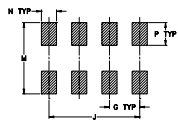
## Pin Connections

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

## Outline Drawing



### PCB Land Pattern

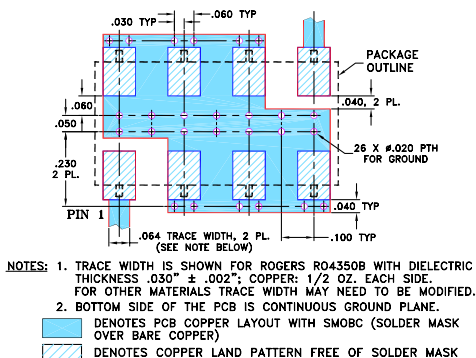


Suggested Layout,  
Tolerance to be within ±.002

## Outline Dimensions (inch/mm)

|       |       |       |       |      |      |       |
|-------|-------|-------|-------|------|------|-------|
| A     | B     | C     | D     | E    | F    | G     |
| .75   | .38   | .20   | .010  | .050 | .020 | .200  |
| 19.05 | 9.65  | 5.08  | 0.25  | 1.27 | 0.51 | 5.08  |
| H     | J     | K     | M     | N    | P    | wt    |
| .075  | .600  | .450  | .470  | .100 | .150 | grams |
| 1.91  | 15.24 | 11.43 | 11.94 | 2.54 | 3.81 | 1.6   |

## Demo Board MCL P/N: TB-187+ Suggested PCB Layout (PL-049)



## Features

- 7-section elliptic function
- excellent rejection

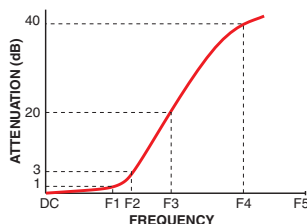
## Applications

- defense communications
- receivers/transmitters
- harmonic rejection of VCOs

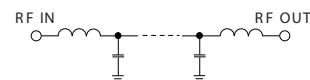
## Electrical Specifications

| Parameter | F#             | Frequency (MHz) | Min.      | Typ. | Max. | Unit   |
|-----------|----------------|-----------------|-----------|------|------|--------|
| Pass Band | Insertion Loss | DC-F1           | DC-865    | —    | —    | 1.0 dB |
|           | Freq. Cut-Off  | F2              | 980       | —    | 3.0  | dB     |
|           | VSWR           | DC-F1           | DC-865    | —    | 1.4  | :1     |
| Stop Band | Rejection Loss | F3-F4           | 1300-1400 | 20   | —    | dB     |
|           |                | F4-F5           | 1400-2550 | 35   | —    | dB     |
|           | VSWR           | F3-F5           | 1300-2550 | —    | 18   | :1     |

## Typical Frequency Response



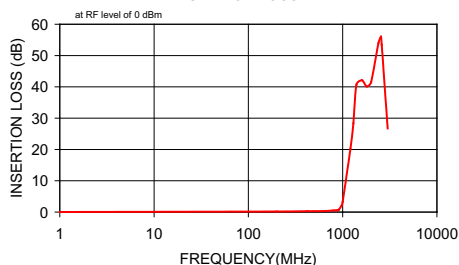
## Electrical Schematic



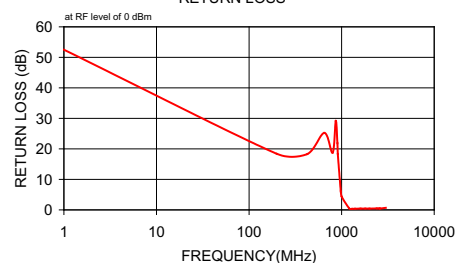
## Typical Performance Data

| Frequency<br>(MHz) | Insertion Loss<br>(dB) |          | Return Loss<br>(dB) |
|--------------------|------------------------|----------|---------------------|
|                    | $\bar{x}$              | $\sigma$ |                     |
| 1.00               | 0.02                   | 0.00     | 52.50               |
| 200.00             | 0.19                   | 0.01     | 18.38               |
| 425.00             | 0.28                   | 0.01     | 18.30               |
| 650.00             | 0.35                   | 0.00     | 25.24               |
| 800.00             | 0.52                   | 0.01     | 18.75               |
| 865.00             | 0.54                   | 0.01     | 29.17               |
| 900.00             | 0.66                   | 0.04     | 21.87               |
| 910.00             | 0.75                   | 0.06     | 18.31               |
| 980.00             | 2.19                   | 0.25     | 6.10                |
| 1000.00            | 3.27                   | 0.34     | 4.39                |
| 1210.00            | 20.21                  | 0.60     | 0.48                |
| 1300.00            | 28.34                  | 0.76     | 0.36                |
| 1400.00            | 40.68                  | 1.67     | 0.37                |
| 1600.00            | 42.12                  | 0.78     | 0.44                |
| 1800.00            | 40.14                  | 0.36     | 0.43                |
| 2000.00            | 41.45                  | 0.32     | 0.43                |
| 2400.00            | 53.98                  | 1.66     | 0.49                |
| 2550.00            | 56.02                  | 1.99     | 0.49                |
| 2600.00            | 53.42                  | 1.94     | 0.47                |
| 3000.00            | 26.74                  | 0.21     | 0.68                |

## SALF-865 INSERTION LOSS



## SALF-865 RETURN LOSS



**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

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