## Feature

- Precision MEMS process
- High performance, shielded, Micro-cavity structure
- Silicon substrate, 50Ω CPW output
- Au wire bonding, for MCM applications

## Environmental Specifications

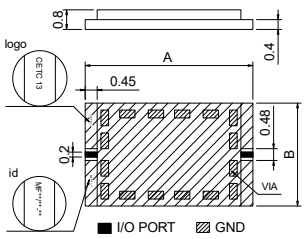
| | |
|---|---|
| Operating Temperature | -55℃~+85℃ |
| Storage Temperature | -55℃~+125℃ |
| Max. Input Power | 35dBm |

## Electrical Specifications($T_A$=+25℃)

| Parameter | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|
| Center Freq. ($f_0$) | - | 13 | - | GHz |
| Pass Band | 7.7 | - | 17.7 | GHz |
| Ripple in Pass band | - | - | 1 | dB |
| Insertion Loss @ $f_0$ | - | - | 0.9 | dB |
| Return Loss | 15 | - | - | dB |
| Out of band Attenuation | ≥40@DC~4.1GHz | | | dB |
| | ≥25@21~25GHz | | | dB |
| Group Delay Variation | ≤0.8@PassBand | | | ns |
| Linear Phase | ≤±10@PassBand | | | ° |

S2P file name: SiMF13_10-10D2.s2p

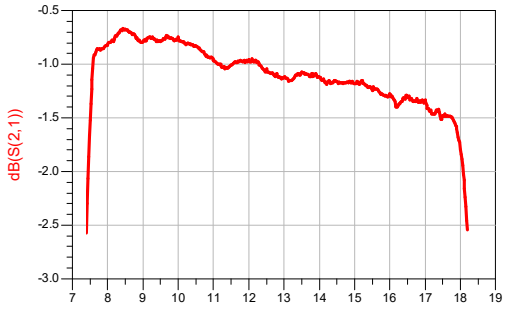
## Outline Drawing



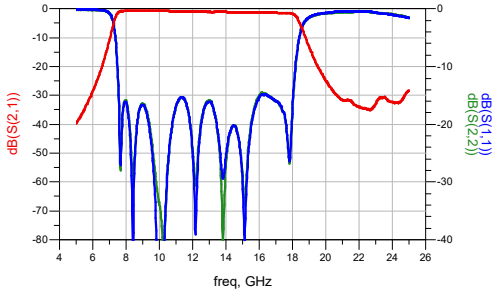

| Symbol | Value (mm) | | |
|---|---|---|---|
| | Min. | Nominal | Max. |
| A | 6.9 | - | 7.0 |
| B | 2.9 | - | 3.0 |

## Typical Test Curves

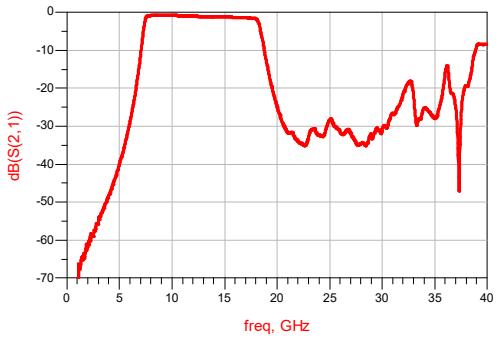
Insertion Loss VS Frequency ($T_A$=25℃)



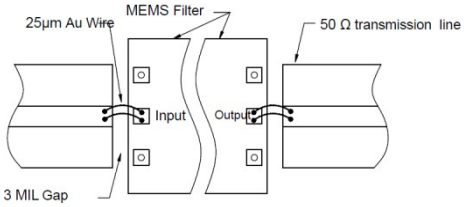

Insertion Loss & Return Loss VS Frequency ($T_A$=25℃)




Broadband Insertion Loss VS Frequency ($T_A$=25℃)




## Recommended Assembly Diagrams




## Application Notes:

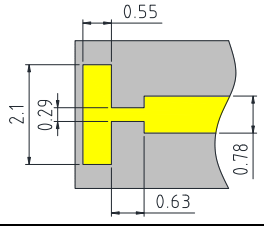
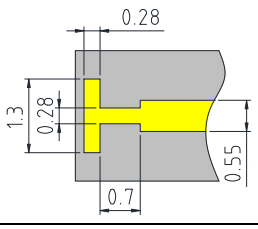
1. The chip is back-metalized and can be die mounted with AuSn eutectic performs or with electrically conductive epoxy (for example ME8456).

2. The die should be assembled on carriers like Kovar or Mu-Cu which have same Coefficient of thermal expansion. (2.9ppm/℃) with Silicon, thickness 0.2mm max.

3. Handle the chips in a clean environment. DO NOT attempt to clean the chip using liquid cleaning systems.

4. Handle the chip along the edges with a vacuum collet or with a sharp pair of bent tweezers.

5. Recommended to use T structure as below for bonding.

| Rogers 5880, 10mil | Rogers 4350, 10mil |
|---|---|
|  |  |



6. If you have any questions, please contact us.