

## Feature

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

## Environmental Specifications

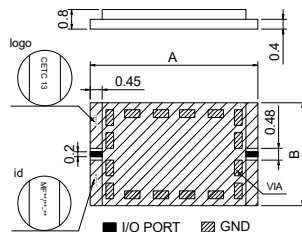
|                       |              |
|-----------------------|--------------|
| Operating Temperature | -55°C~+85°C  |
| Storage Temperature   | -55°C~+125°C |
| Max. Input Power      | 35dBm        |

## Electrical Specifications( $T_A=+25^\circ\text{C}$ )

| Parameter                  | Min.                                     | Typ. | Max. | Unit |
|----------------------------|------------------------------------------|------|------|------|
| Center Freq. ( $f_0$ )     | -                                        | 16.4 | -    | GHz  |
| Pass Band                  | 14.8                                     | -    | 18.1 | GHz  |
| Ripple in Pass band        | -                                        | -    | 1    | dB   |
| Insertion Loss @ $f_0$     | -                                        | -    | 2.6  | dB   |
| Return Loss                | 14                                       | -    | -    | dB   |
| Out of band<br>Attenuation | $\geq 30@13.6\text{GHz}\&19.1\text{GHz}$ |      |      | dB   |
|                            | $\geq 40@13.3\text{GHz}\&19.5\text{GHz}$ |      |      | dB   |
|                            | $\geq 60@\text{DC}\sim 12.2\text{GHz}$   |      |      | dB   |
|                            | $\geq 60@19.8\sim 22.5\text{GHz}$        |      |      | dB   |
| Group Delay Variation      | $\leq 0.6@14.8\sim 18.1\text{GHz}$       |      |      | ns   |
| Linear Phase               | $\leq \pm 15@14.8\sim 18.1\text{GHz}$    |      |      | °    |

S2P file name: SiMF16R4\_3R2-8D2.s2p

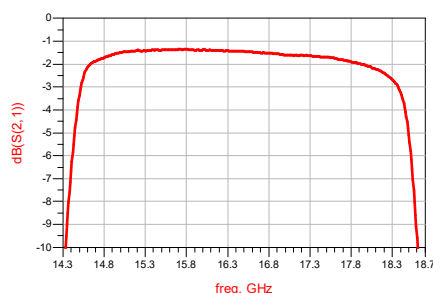
## Outline Drawing



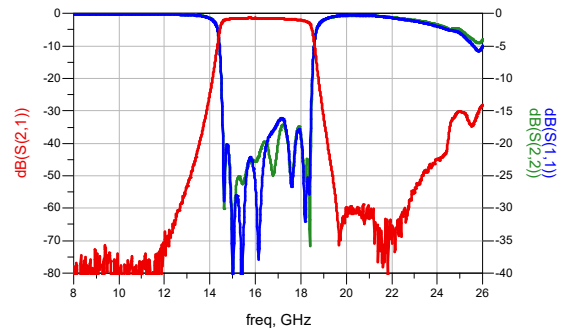
| Symbol | Value (mm) |         |      |
|--------|------------|---------|------|
|        | Min.       | Nominal | Max. |
| A      | 6.9        | -       | 7.0  |
| B      | 2.3        | -       | 2.4  |

## Typical Test Curves

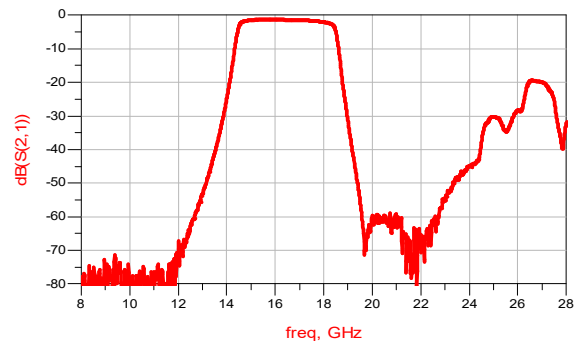
Insertion Loss VS Frequency ( $T_A=25^\circ\text{C}$ )



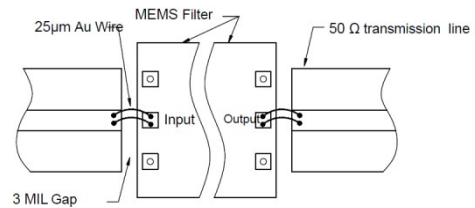
Insertion Loss & Return Loss VS Frequency ( $T_A=25^\circ\text{C}$ )



Broadband Insertion Loss VS Frequency ( $T_A=25^\circ\text{C}$ )

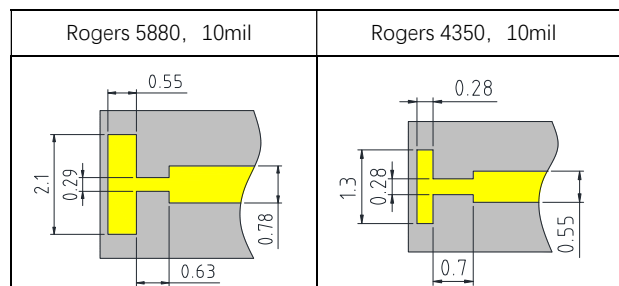


## Recommended Assembly Diagrams



## 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/°C) 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.



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