

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°C)

| Parameter | Min. | Typ. | Max. | Unit |
|---------------------------------|---------------------|------|------|------|
| Center Freq. (f ₀) | - | 12.4 | - | GHz |
| Pass Band | 8.8 | - | 16 | GHz |
| Ripple in Pass band | - | - | 1 | dB |
| Insertion Loss @ f ₀ | - | - | 1.5 | dB |
| Return Loss | 15 | - | - | dB |
| Out of band Attenuation | ≥30@7.5GHz&17.35GHz | | | dB |
| | ≥40@7.1GHz&17.5GHz | | | dB |
| Attenuation | ≥60@DC~6GHz | | | dB |
| | ≥50@20~21.9GHz | | | dB |
| Group Delay Variation | ≤1.5@8.8~16GHz | | | ns |
| Linear Phase | ≤±10@8.8~16GHz | | | ° |

S2P file name: SiMF12R5_7-11D2.s2p

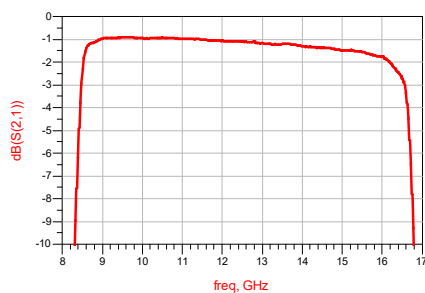
Outline Drawing



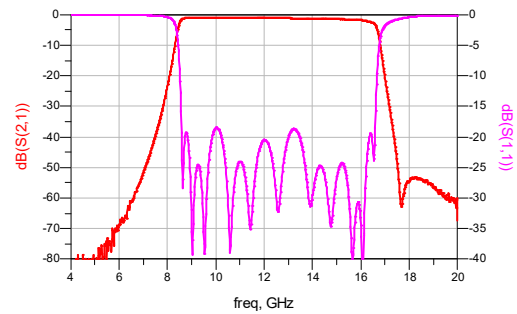
| Symbol | Value (mm) | | |
|--------|------------|---------|------|
| | Min. | Nominal | Max. |
| A | 6.9 | - | 7.0 |
| B | 2.9 | - | 3.0 |

Typical Test Curves

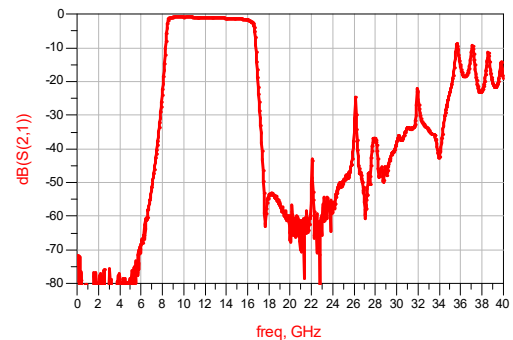
Insertion Loss VS Frequency (T_A=25°C)



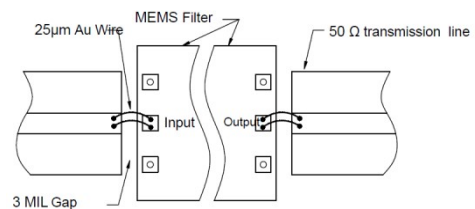
Insertion Loss & Return Loss VS Frequency (T_A=25°C)



Broadband Insertion Loss VS Frequency (T_A=25°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.