

Feature

- High Precision GaAs process
- High performance, shielded
- GaAs substrate, 50Ω CPW output
- Au wire bonding, for MCM applications

Environmental Specifications

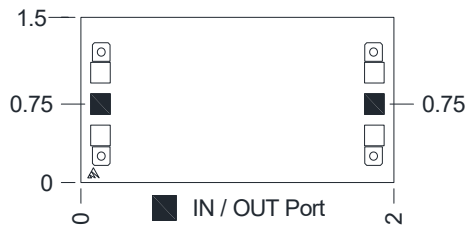
| | |
|-----------------------|--------------|
| Operating Temperature | -55°C~+85°C |
| Storage Temperature | -65°C~+150°C |
| Max. Input Power | 30dBm |

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

| Parameter | Min. | Typ. | Max. | Unit |
|-------------------------|---|------|------|------|
| Cut-off Freq. (f_c) | - | 0.12 | - | GHz |
| Insertion Loss @ f_c | - | - | 3.0 | dB |
| Return Loss | 12 | - | - | dB |
| Out of band Attenuation | $\geq 20@0.24\text{GHz}$ $\geq 40@0.4\text{GHz}$ | | | dB |

S2P file name: PDLF-R12.s2p

Outline Drawing

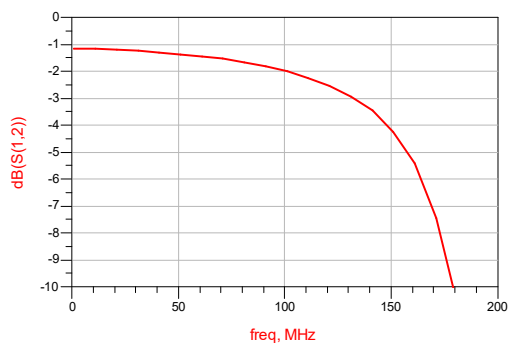


Notes:

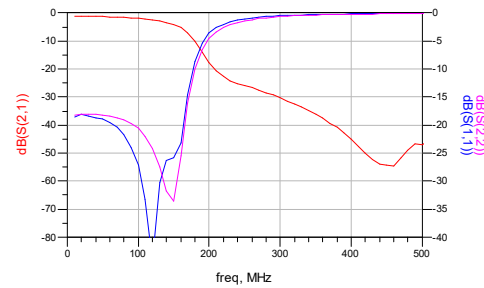
1. Dimensions are in millimeters. Tolerance: $\pm 0.05\text{mm}$
2. Die thickness is 0.15mm
3. Typical bond pad is $0.1 \times 0.1 \text{ mm}^2$.
4. The bottom of the device is gold plated, should be grounded.

Typical Test Curves

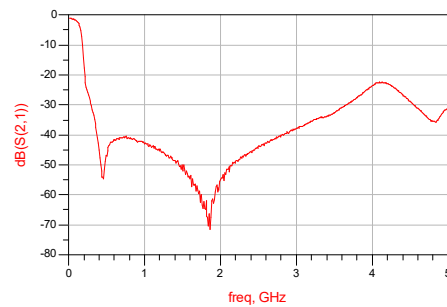
Insertion Loss VS Frequency ($T_A=25^\circ\text{C}$)



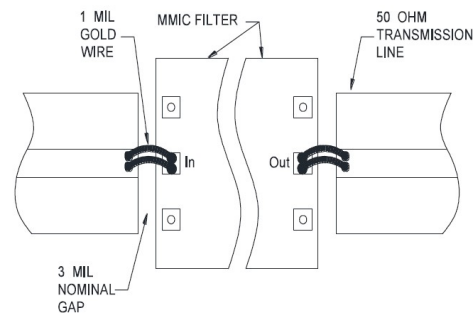
Insertion Loss & Return Loss VS Frequency ($T_A=25^\circ\text{C}$)



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



Recommended Assembly Diagrams



Application Notes:

1. The chip is back-metallized and can be die-mounted with AuSn eutectic preforms or with electrically conductive epoxy.
2. The die should be assembled on carriers like Kovar or Mu-Cu which have same Coefficient of thermal expansion. ($5.8 \times 10^{-6}/^\circ\text{C}$) with GaAs.
3. Recommend using $\Phi 25\mu\text{m}$ Au wire for bonding, whose length is around $400\mu\text{m}$.
4. Sinter by AuSn (80/20), which doesn't exceed 300°C within 30 seconds max.
4. Handle the chips in a clean environment. DO NOT attempt to clean the chip using liquid cleaning systems.
5. Handle the chip along the edges with a vacuum collet or with a sharp pair of bent tweezers.
6. The device is sensitive to ESD. ESD protection is required during storage and usage.
7. If you have any questions, please contact us.