

## Feature

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

## Environmental Specifications

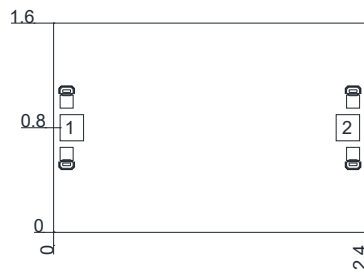
|                       |              |
|-----------------------|--------------|
| Operating Temperature | -55°C~+85°C  |
| Storage Temperature   | -65°C~+150°C |
| Max. Input Power      | 30dBm        |

## Electrical Specifications(T<sub>A</sub>=+25°C)

| Parameter                       | Min.      | Typ. | Max. | Unit |
|---------------------------------|-----------|------|------|------|
| Center Freq. (f <sub>0</sub> )  | -         | 33   | -    | GHz  |
| Pass band                       | 31        | -    | 35   | GHz  |
| Insertion Loss @ f <sub>0</sub> | -         | -    | 2.5  | dB   |
| Ripple in Pass band             | -         | -    | 1.4  | dB   |
| Return Loss                     | 15        | -    | -    | dB   |
| Out of band                     | ≥35@23GHz |      |      | dB   |
| Attenuation                     | ≥35@40GHz |      |      | dB   |

S2P file name: PDBF33\_35-6B2.s2p

## Outline Drawing

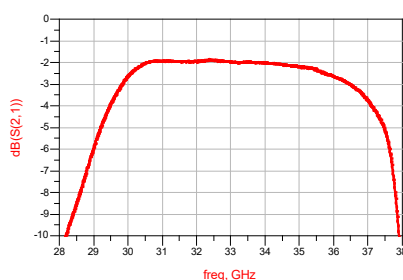


Notes:

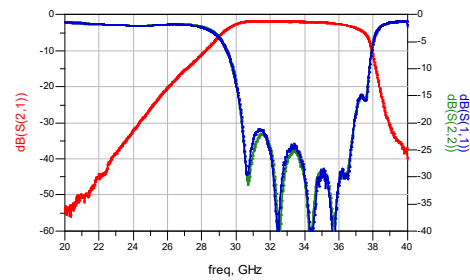
1. Dimensions are in millimeters. Tolerance: ±0.05mm
2. Die thickness is 0.15mm
3. Typical bond pad is 0.1x0.1 mm<sup>2</sup>.
4. The bottom of the device is gold plated, should be grounded.

## Typical Test Curves

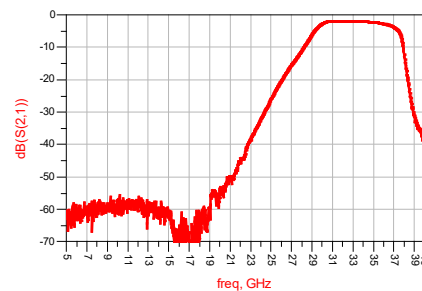
Insertion Loss VS Frequency (T<sub>A</sub>=25°C)



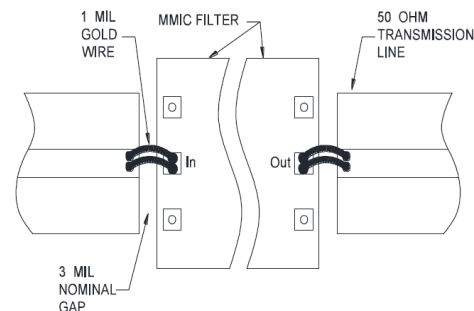
Insertion Loss & Return Loss VS Frequency (T<sub>A</sub>=25°C)



Broadband Insertion Loss VS Frequency (T<sub>A</sub>=25°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. (5.8×10<sup>-6</sup>/) with GaAs.
3. Recommend using Φ25um Au wire for bonding, whose length is around 400um.
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.