

## Feature

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

## Environmental Specifications

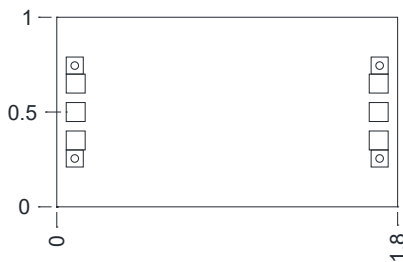
Operating Temperature	-55°C~+85°C
Storage Temperature	-65°C~+150°C
Max. Input Power	30dBm

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

Parameter	Min.	Typ.	Max.	Unit
Center Freq. (f <sub>0</sub> )	-	13.9	-	GHz
Pass band	12	-	15.8	GHz
Insertion Loss @ f <sub>0</sub>	-	-	2.5	dB
Ripple in Pass band	-	-	1.0	dB
Return Loss	12	-	-	dB
Out of band	≥40@10GHz			dB
Attenuation	≥30@18GHz			dB

S2P file name: PDBF-12\_16.s2p

## Outline Drawing

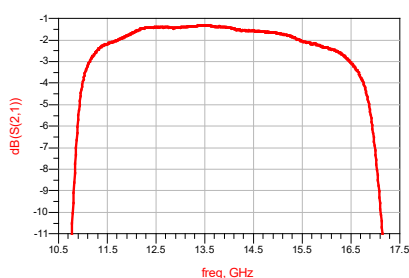


Notes:

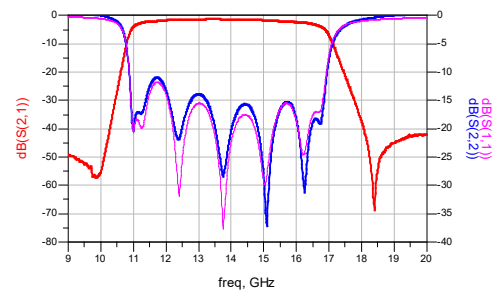
1. Dimensions are in millimeters. Tolerance: ±0.05mm
2. Die thickness is 0.15 mm
3. Typical bond pad is 0.1x0.1 mm<sup>2</sup>.
4. The bottom of the device is gold plated, should be grounded.

## Typical Test Curves

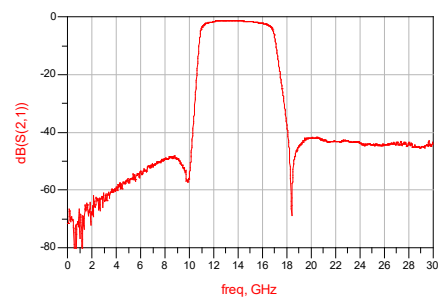
Insertion Loss VS Frequency (T<sub>A</sub>=25°C)



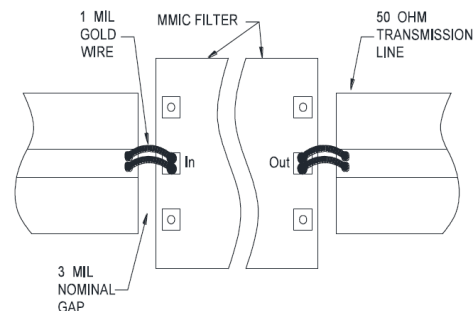
Insertion Loss & Return Loss VS Frequency (T<sub>A</sub>=25°C)



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.