

Feature

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

Environmental Specifications

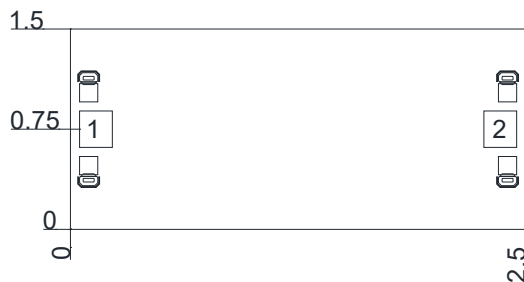
Operating Temperature	-55°C ~ +85°C
Storage Temperature	-65°C ~ +150°C
Max. Input Power	30dBm

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

Parameter	Min.	Typ.	Max.	Unit
Center Freq. (f_0)	-	0.48	-	GHz
Pass band	0.4	-	0.55	GHz
Insertion Loss @ f_0	-	-	3.5	dB
Ripple in Pass band	-	-	1	dB
Return Loss	12	-	-	dB
Out of band Attenuation	≥ 35 @200MHz & 800MHz			dB

S2P file name: PDBF-R38_R58-4C2.s2p

Outline Drawing

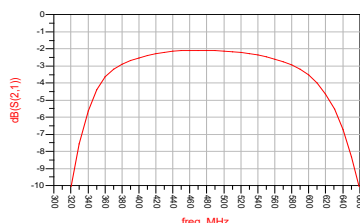


Notes:

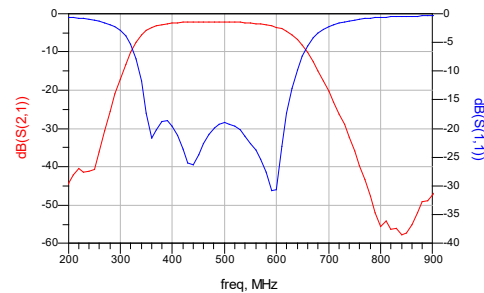
1. Dimensions are in millimeters. Tolerance: $\pm 0.05\text{mm}$
2. Die thickness is 0.15 mm
3. Typical bond pad is $0.1 \times 0.1 \text{ mm}^2$.
4. The bottom of the device is gold plated, should be grounded.

Typical Test Curves

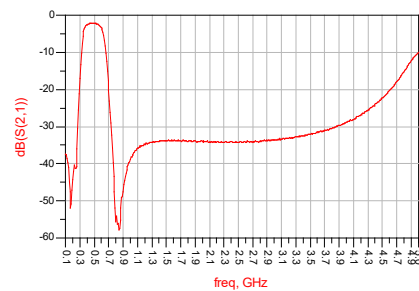
Insertion Loss VS Frequency ($T_A = 25^\circ\text{C}$)



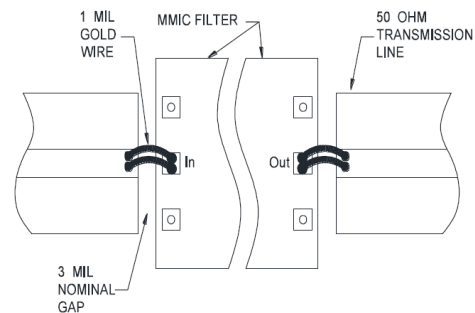
Insertion Loss & Return Loss VS Frequency ($T_A = 25^\circ\text{C}$)



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 μm .
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.