Features

Freq: DC～20GHz

0,0.5,1,1.5,2,2.5,3,3.5dB Fixed Levels

Chip Size: 0.74mm×0.65mm×0.1mm

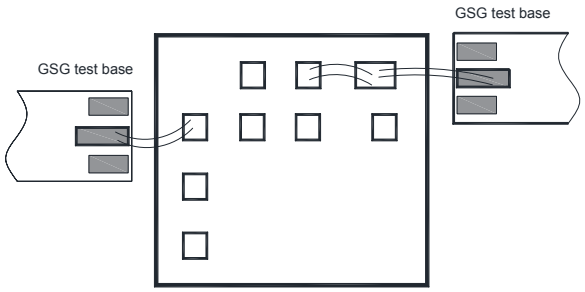
General Description

The HG136SA is a fixed GaAs pHEMT digital attenuator. Covering DC to 20 GHz, the attenuator bit values are 0dB, 0.5dB, 1.0 dB, 1.5dB, 2 dB, 2.5dB, 3dB, 3.5dB.

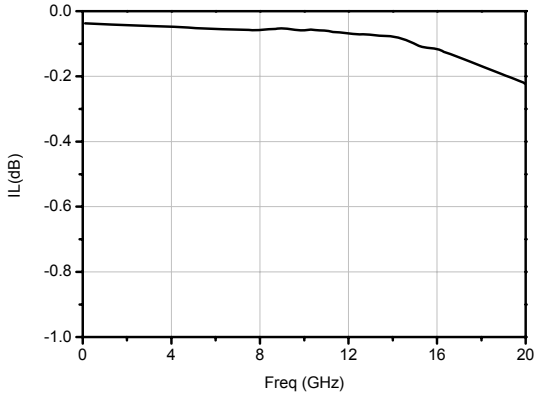
Electrical Specifications(T_A=25 ℃)

Parameter	Min.	Typ.	Max.
Frequency Range(GHz)		DC～20	
Input VSWR	-	1.2	-
Output VSWR	-	1.2	-
Insertion Loss(dB)	-	0.25	-
Attenuation Accuracy(dB)	-	±0.1	-

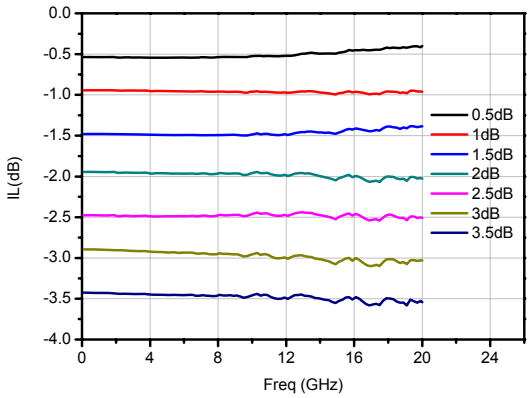
Measured Diagram(Use GSG test base, testing with alloy wire)



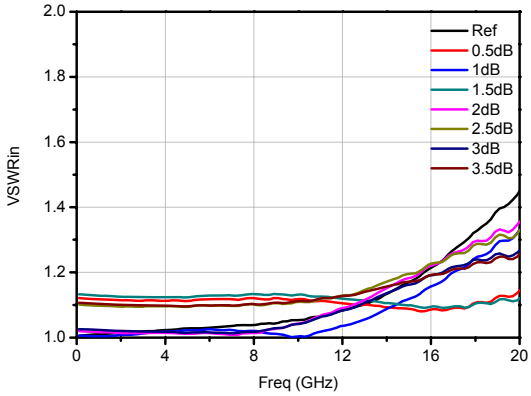
Insertion Loss of Reference State



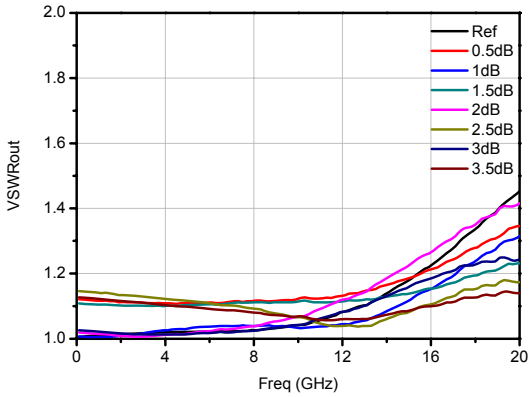
Insertion Loss



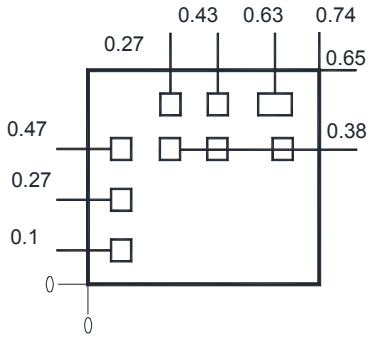
Input VSWR



Output VSWR

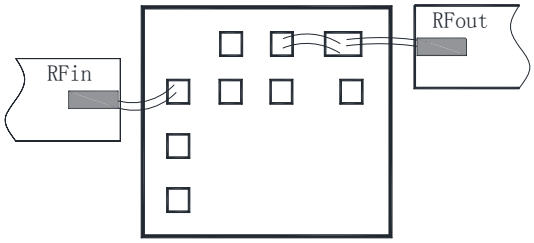


Outline Drawing (mm)

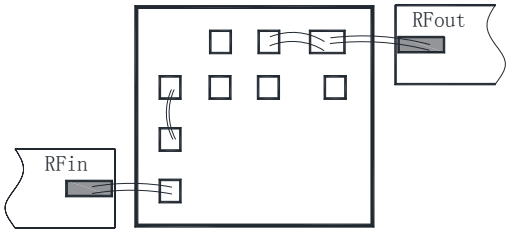


Assembly Diagram

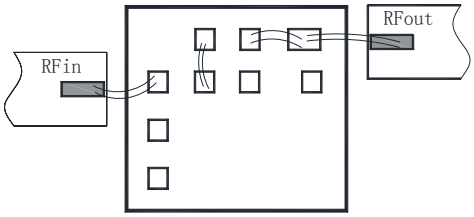
Reference state bonding



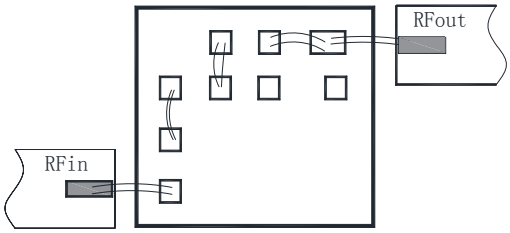
Attenuate 2dB bonding



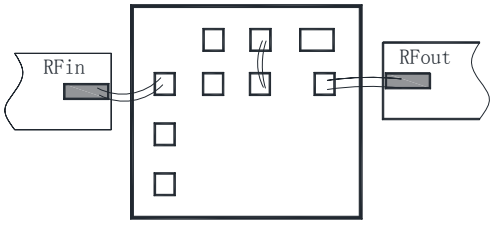
Attenuate 0.5dB bonding



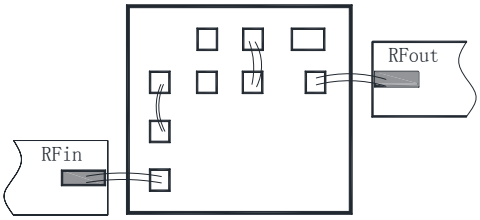
Attenuate 2.5dB bonding



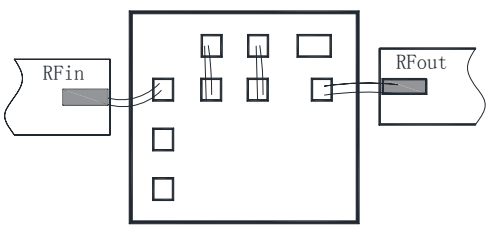
Attenuate 1dB bonding



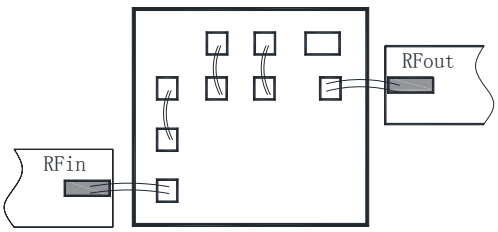
Attenuate 3dB bonding



Attenuate 1.5dB bonding



Attenuate 3.5dB bonding



Absolute Maximum Ratings

RF Input Power	+27dBm
Operating Temperature	-55℃～125℃
Storage Temperature	-65℃～150℃

Notes:

1. The chip should be stored in a dry and nitrogen environment, and used in a clean environment.
2. GaAs material is brittle, can not touch the surface of the chip, must be careful when using.
3. The chip is welding with conductive adhesive or alloy (alloy temperature should not exceed 300℃, and no more than 30 sec.), and should make it fully grounded.
4.The chip microwave port and substrate gap is not exceeding 0.05mm, with Φ25μm double gold wire bonding, suggested length of gold wire 250～400μm. Use length of gold wire100~200μm in the internal of the chip.
5.Chip microwave port without DC blocking capacitor.
6.The chip is sensitive to static electricity, and should be protected against static electricity during storage and use.