

### Features

- Freq: DC~20GHz
- 0/1/2/3dB Fixed Levels
- Insertion Loss: 0.5dB
- Chip Size: 0.5mm×1.43mm×0.1mm

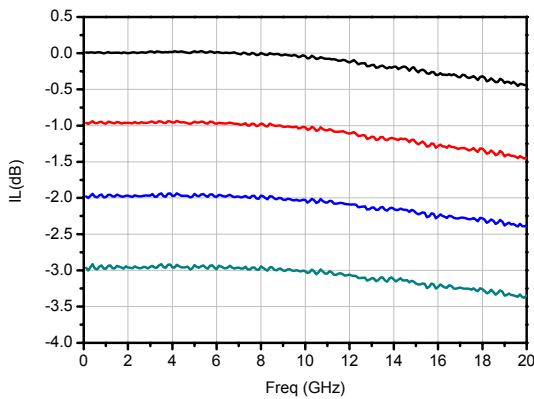
### General Description

The HG140S is a fixed GaAs pHEMT digital attenuator. Covering DC to 20 GHz, the attenuator bit values are 0dB, 1dB, 2dB, 3dB.

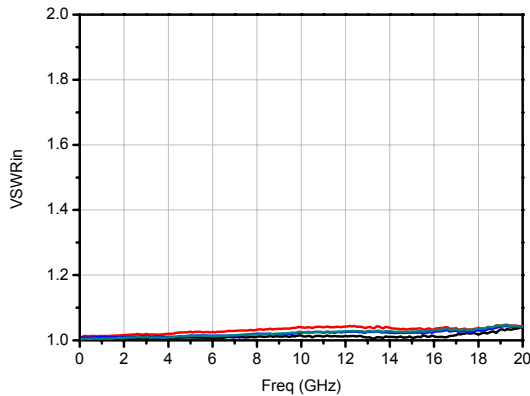
### Electrical Specifications( $T_A=25^\circ C$ )

Parameter	Min.	Typ.	Max.
Frequency Range(GHz)	DC~20		
Input VSWR	-	-	1.1
Output VSWR	-	-	1.1
Insertion Loss(dB)	-	-	0.5
Attenuation Accuracy(dB)	-	-	0.4

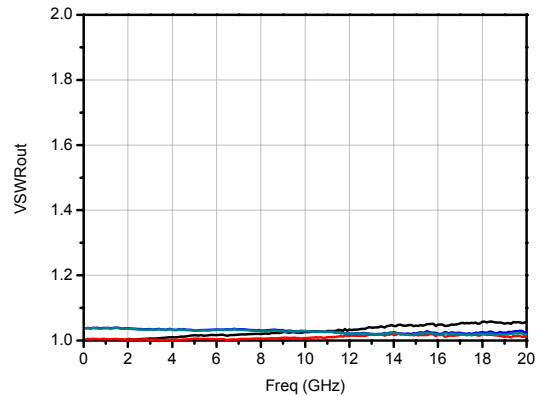
### Insertion Loss



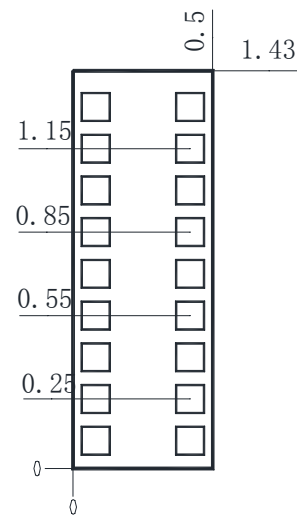
### Input VSWR



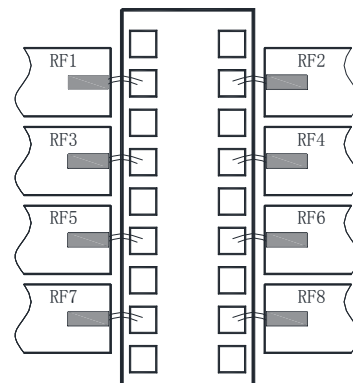
### Output VSWR



### Outline Drawing (mm)



### Assembly Diagram



### Attenuation State

State	Attenuation Value
RF1-RF2	0dB
RF3-RF4	1dB
RF5-RF6	2dB
RF7-RF8	3dB

**Absolute Maximum Ratings**

RF Input Power	+27dBm	
Control Voltage	Low Level: 0~-0.5V	High Level: -3.7~-5V
Operating Temperature	-55°C~125°C	
Storage Temperature	-65°C~150°C	

**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°C, 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  $\Phi 25\mu\text{m}$  double gold wire bonding, suggested length of gold wire 250~400 $\mu\text{m}$ .
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.