

## Features

- Frequency: DC~20GHz
- Attenuation Range: 25dB
- Insertion Loss: 1.0dB
- Package Size: 3mm × 3mm × 1.2mm

## Typical Applications

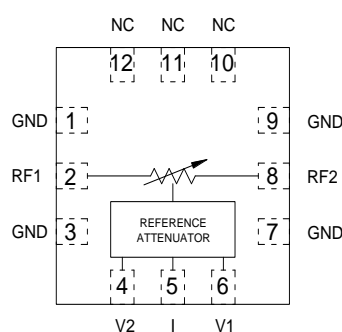
- EW
- Cellular Infrastructure
- SATCOM
- Beamforming Modules
- Test Equipment and Sensors

## General Description

SAC3411Q3 is a GaAs broadband voltage-controlled attenuator chip with frequency coverage of DC~20GHz, insertion loss of 1dB and attenuation range of 25dB. The chip uses negative pressure to control attenuation.

The chip adopts on-chip metallization process to ensure good grounding. It is simple and convenient to use. The back of the chip is metallized. It is suitable for eutectic sintering or conductive adhesive bonding process.

## Functional Diagram



## Electrical Performance

$T_A=25^{\circ}\text{C}$ , 50Ω System

Parameter	Min.	Typ.	Max.	Units
Frequency	DC~20			GHz
Input VSWR	-	1.5	-	dB
Output VSWR	-	1.5	-	dB
Insertion Loss	1.8	1.0	-	dB
$A_{TT}$ -Phase Error	-	40	-	°

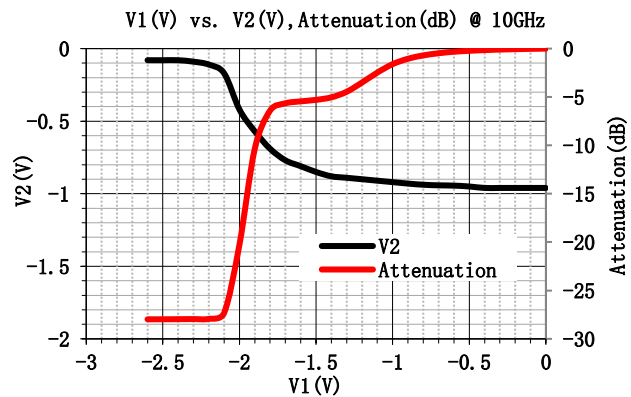
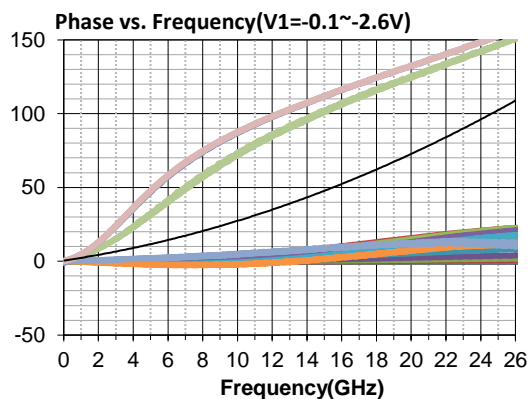
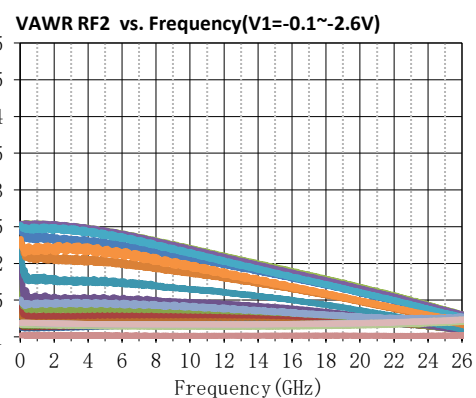
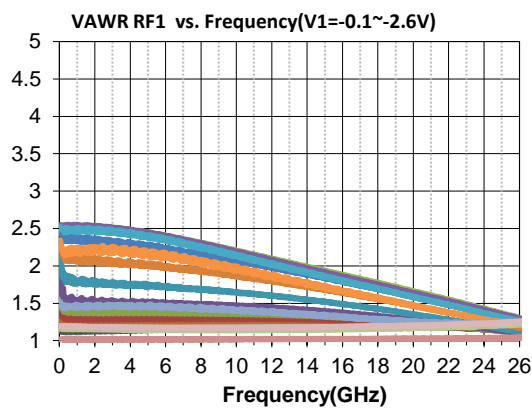
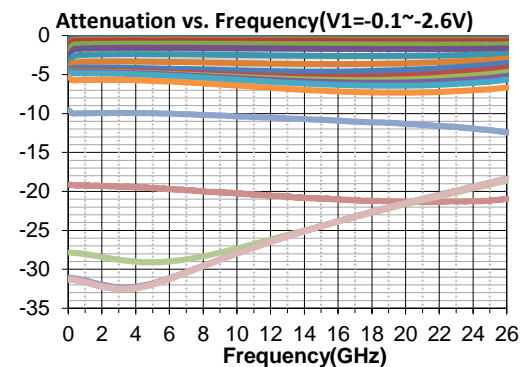
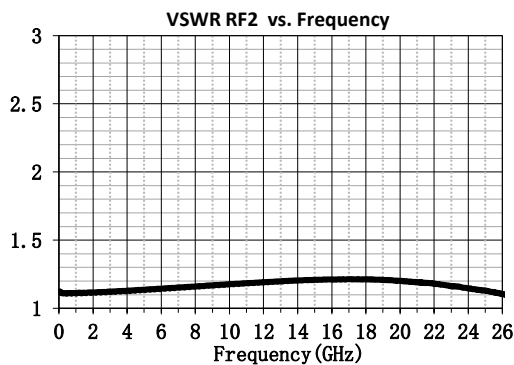
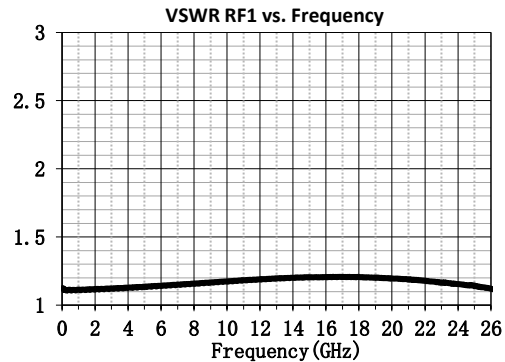
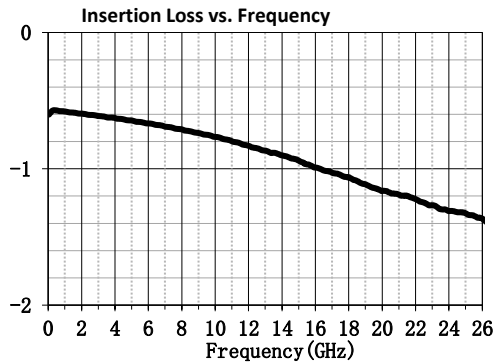
## Absolute Maximum Ratings

Maximum Input Power	+18dBm	Operating Temperature	-55°C~+85°C
Maximum Control Voltage	-6V	Storage Temperature	-65°C~+150°C

## Power Supply

$V_1$	$V_2$
8mA	8mA

## Typical Performance Curve



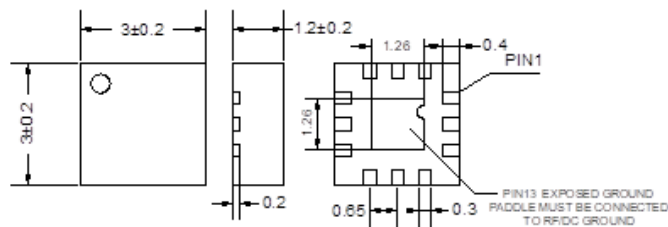
# SAC3411Q3

GaAs MMIC Voltage Attenuator  
DC~20GHz

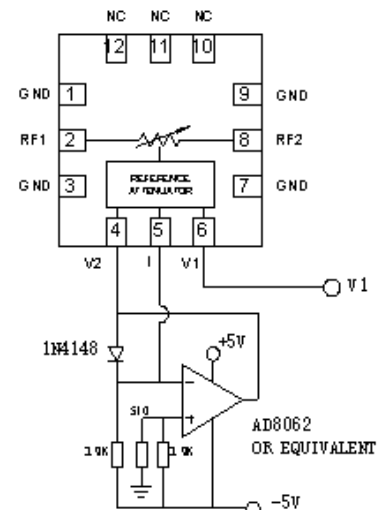
Rev 1.0

## Outline

All dimensions in mm



## Application Circuit



### Attention:

1. The chip is stored in dry and nitrogen environment and used in ultra clean environment;
2. GaAs material is brittle and cannot touch the chip surface. Care must be taken when using it;
3. The chip shall be sintered with conductive adhesive or alloy (the alloy temperature shall not exceed 300°C, and the time shall not exceed 30 seconds) to make it fully grounded;
4. The gap between the chip microwave port and the substrate shall not exceed 0.05mm  $\Phi$  25  $\mu$ m double gold wire bonding, the recommended gold wire length is 250 ~ 400  $\mu$ m;
5. The chip is sensitive to static electricity. Pay attention to anti-static during storage and use.