

## C-band Power Amplifier Module 5.4GHz~5.8GHz 36dBm

Rev 1.1

### Features

- Frequency: 5.4GHz~5.8GHz
- Gain: 36dB
- OP<sub>1</sub>dB: 36dBm
- Supply Voltage: +8V
- PAE: 33%
- Size: 25.4mm×34mm×5.5mm

### Typical Applications

- Microwave radio
- Telecommunication
- Test instrumentation

### General Description

SAC1166 is a balanced C-band power amplifier manufactured using microwave hybrid integration technology. The operating frequency from 5.4 to 5.8GHz with 36 dB of gain typ. 33% PAE and 36dBm Output P<sub>1</sub>dB from a +8V supply.

### Picture



### Electrical Performance ( T<sub>A</sub>=25°C, V<sub>D</sub>=+8V, I<sub>D</sub>=1.4A, Z<sub>O</sub>=50Ω )

Parameter	Min.	Typ.	Max.	Units
Frequency Range	5.4 ~ 5.8			GHz
Small Signal Gain	33	36	—	dB
Small Signal Gain Flatness	—	±1.5	±2.5	dB
Reverse Isolation	—	-45	—	dB
Input VSWR	—	1.5	2	:1
Output VSWR	—	1.8	2.5	:1
PAE	—	33	—	%
Output P <sub>1</sub> dB	35.5	36	—	dBm
Output IP <sub>3</sub>	—	42	—	dBm
Spurious	—	-65	—	dBc
Turn-on Time	—	2	—	μs
Turn-off Time	—	6	—	μs
Turn-ON Control level	4.2	—	5	V
Turn-OFF Control level	0	—	0.5	V
Supply Voltage(V <sub>D</sub> )	7	8	8.5	V
Supply Current(I <sub>D</sub> )	—	1.5	1.8	A

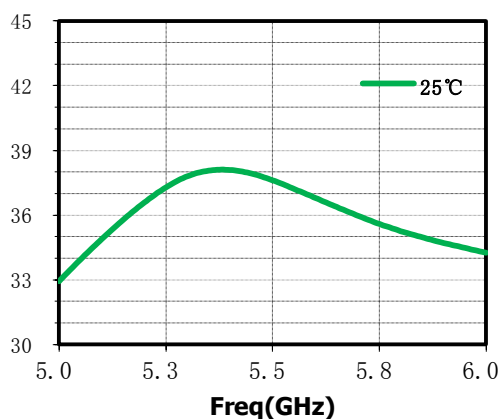
### Absolute Maximum Ratings

Maximum Input Power	+13dBm	Operating Temperature	-40°C ~ +70°C
Channel Temperature	+150°C	Storage Temperature	-55°C ~ +125°C

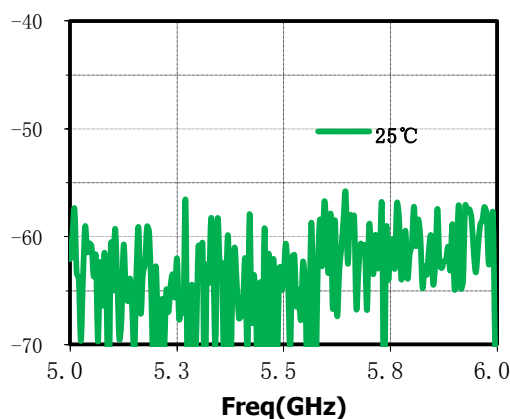
### Typical Performance Curve

$V_D = +8V$

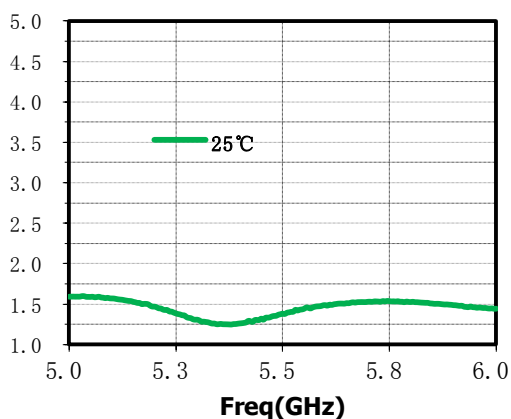
**Small Signal Gain(dB)vs. Temperature**



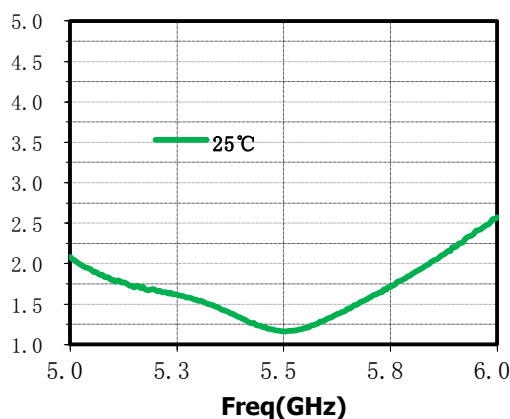
**Reverse Isolation(dB)vs. Temperature**



**Input VSWR(:1)**

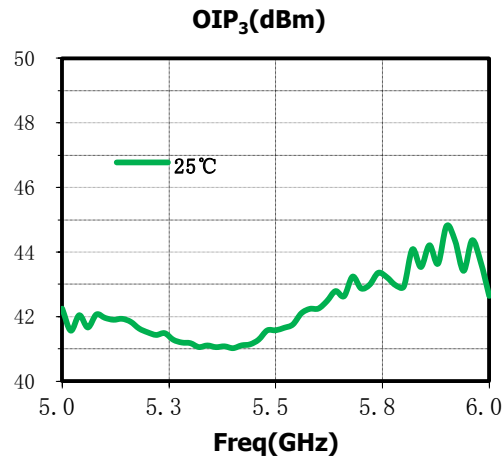
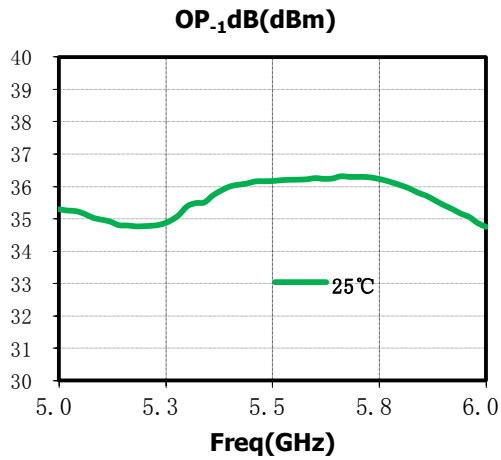


**Output VSWR(:1)**



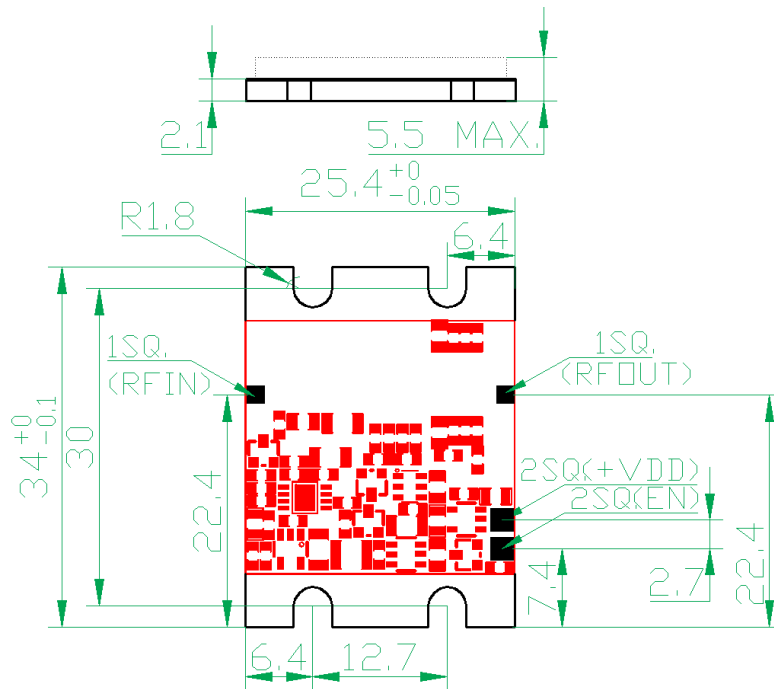
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### Mechanical Outline

All dimensions are in millimeters



#### Note:

There are electrostatic sensitive GaAs devices inside the module, which is susceptible to damage from Electrostatic Discharge.