

## L-band Power Amplifier Module 0.7GHz~1.5GHz 39dBm

Rev 1.2

### Features

- Frequency: 0.7GHz~1.5GHz
- Small Signal Gain: 32dB
- Output Power: 39dBm
- Balanced Amplifier
- Supply Voltage: +28V
- PAE: 33%
- Size: 25.4mm×34mm×5.5mm

### Typical Applications

- Microwave radio
- Telecommunication
- Test instrumentation

### General Description

SAC1155 is a balanced power amplifier manufactured using microwave hybrid integration technology. The operating frequency from 0.7 to 1.5GHz with 32 dB of small signal gain typ. and 39dBm output power from a +28V supply.

### Picture



### Electrical Performance ( $T_A=25^{\circ}\text{C}$ , $V_D=+28\text{V}$ , $I_D=0.28\text{A}$ , $Z_0=50\Omega$ )

Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.7 ~ 1.5			GHz
Small Signal Gain	28	32	37	dB
Small Signal Gain Flatness	—	±1	±1.5	dB
Reverse Isolation	—	-50	—	dB
Input VSWR	—	1.5	2	:1
Output VSWR	—	1.4	2	:1
PAE	—	33	—	%
Output Power*	38.5	39	—	dBm
Output $IP_3$ **	—	50	—	dBm
Spurious	—	-65	—	dBc
Turn-on Time	—	2	—	μs
Turn-off Time	—	6	—	μs
Turn-ON	4.2	—	5	V
Turn-OFF	0	—	0.5	V
Supply Voltage( $V_D$ )	27	28	29	V
Supply Current( $I_D$ )	—	0.8	1.1	A

\*Test conditions :  $P_{OUT}/T_{ONE}=+8 \sim +10\text{dBm}$ ; \*\*Two tone signal  $P_{IN}/T_{ONE}=+0\text{dBm}$  , separation:1MHz

## Absolute Maximum Ratings

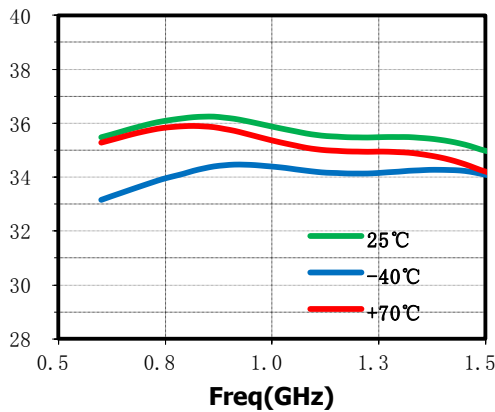
Maximum Input Power	+15dBm	Operating Temperature	-40°C ~ +70°C*
Channel Temperature	+150°C	Storage Temperature	-65°C ~ +150°C

\*With sufficient heat dissipation

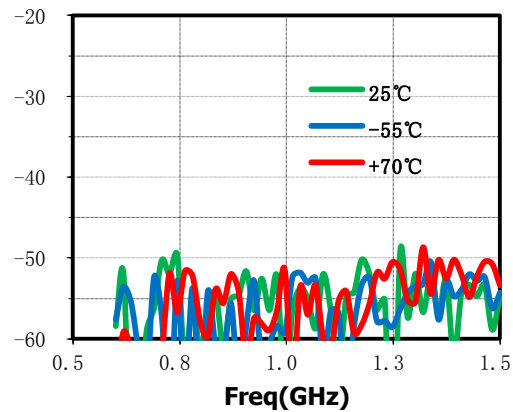
## Typical Performance Curve

$V_D=+28V$

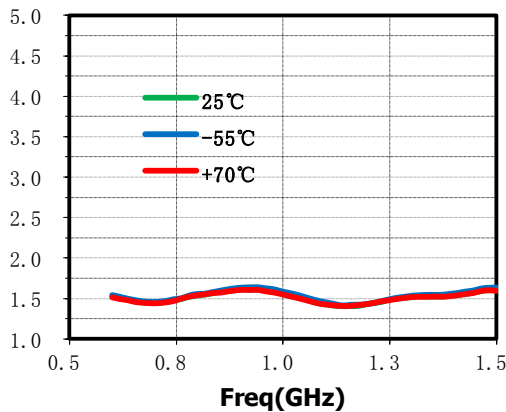
**Small Signal Gain(dB)vs. Temperature**



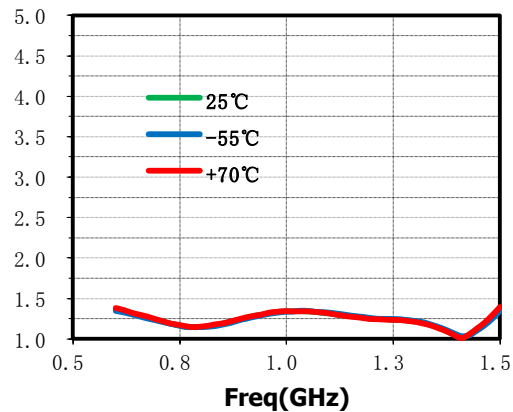
**Reverse Isolation(dB)vs. Temperature**



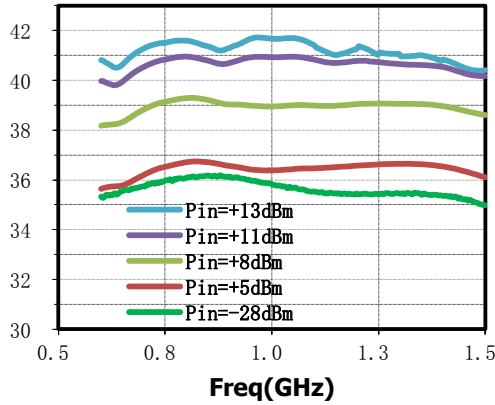
**Input VSWR(:1)vs. Temperature**



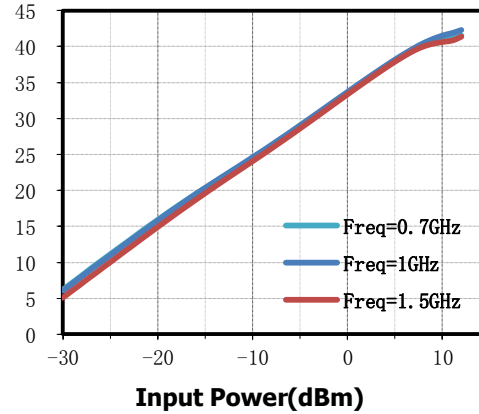
**Output VSWR(:1)vs. Temperature**



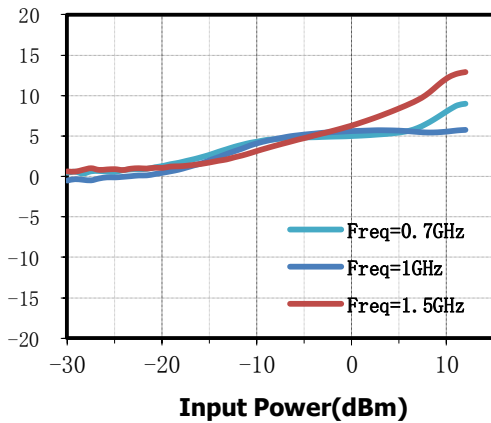
**Output Power(dBm)vs. Input Power**



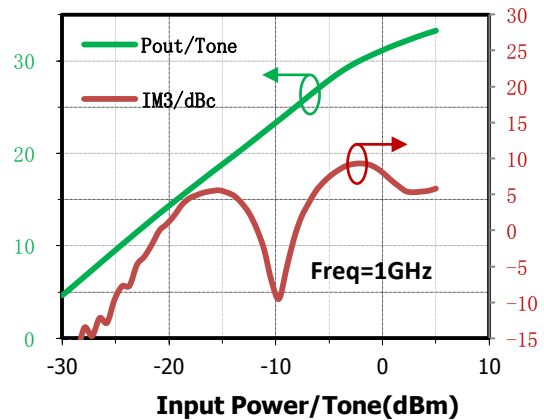
**Output Power(dBm)vs.Freq**



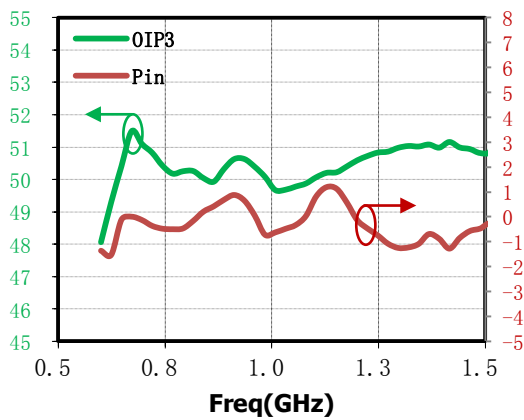
**AM-PM Distortion (°) vs. Freq**



**IM3(dBc)vs. Input Power/Tone(dBm)**



**OIP<sub>3</sub>(dBm)**



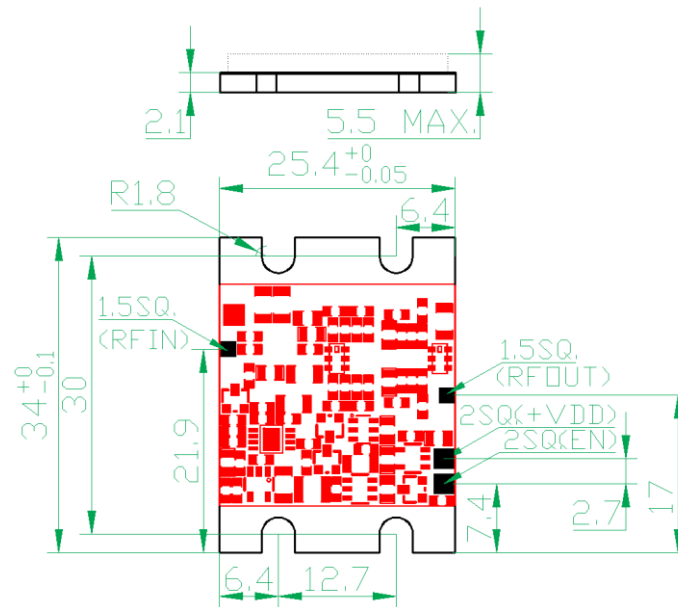
# SAC1155

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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.