



0.1-6GHz, 20dBm, 5V GaAs Broadband MMIC

Description

The AC6000P1 is a 20dBm P1dB, single stage GaAs gain block MMIC, designed for broad band applications, with frequencies from 0.1 to 6GHz. The module is 50 Ω input/output matched and requires minimal external components.



It is normally used as the driver for Innegration Watt level MCDA etc

Parameter	Typical Value												Unit
	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	
Frequency	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	GHz
Small Signal Gain	18.3	17.6	17.2	17.1	16.7	17	17	16.8	16.9	17.5	17.9	18.6	dB
Input Return Loss	15	19.4	16.2	14.3	14.2	15.4	18.4	30.4	22.6	15.8	13.7	16.2	dB
Reverse Isolation	21.9	23.1	23.7	24.2	24.8	24.6	25	25.3	25.4	24.9	24.8	24.3	dB
P1dB	20	20.8	20.7	20.6	20.9	20.7	20.9	20.5	20.6	20.3	20.3	20.1	dBm

Applications

- Ultra Broadband Amplifiers

Absolute Maximum Ratings

Parameter	Rating	Unit
Input RF Power	+20	dBm
Supply Voltage	6	V
Device Current	150	mA
Operating Ambient Temperature	-40 to +85	°C
Storage Temperature	-40 to +150	°C

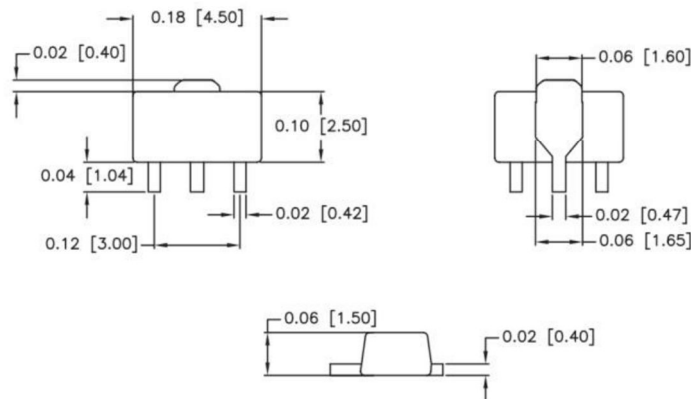


Caution!

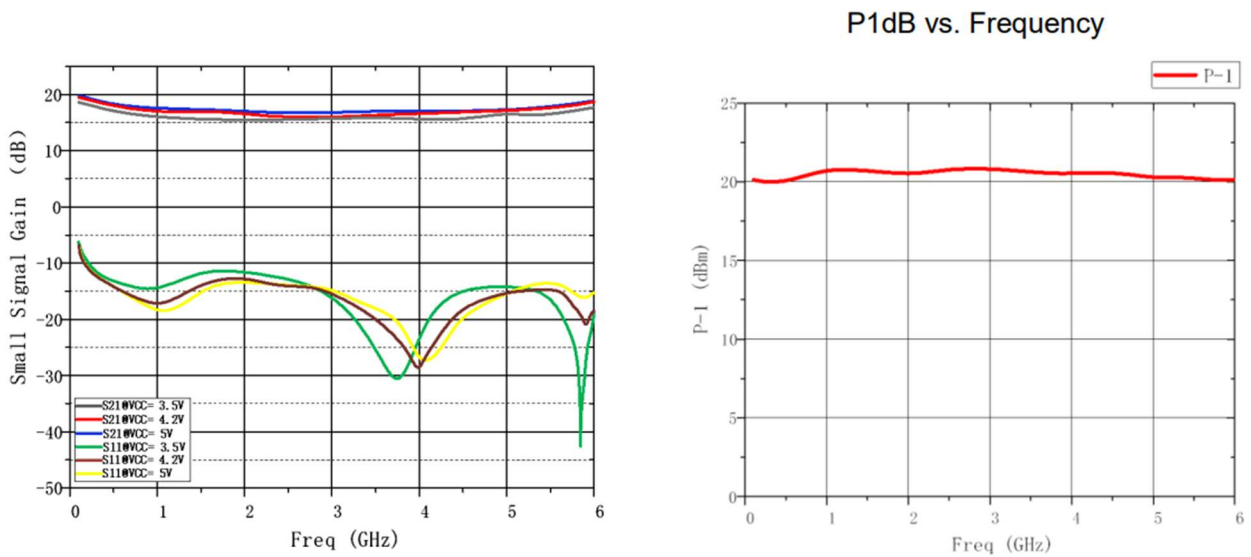
Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability.

Package Diagram

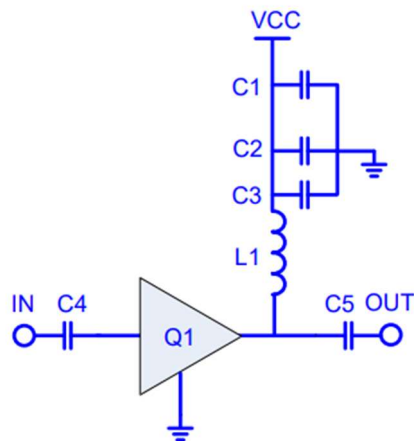
(Units: millimeters)



Typical RF performance



Evaluation Board Schematic and BOM



C1	10uF	CAP, SMD, 10uF, 0402
C2	1000pF	CAP, SMD, 1000pF, 0402
C3	10pF	CAP, SMD, 10pF, 0402
C4, C5	100pF	CAP, SMD, 100pF, 0402
L1	180nH	Coli IND, SMD, 100nH, 0603



Revision history

Table 6. Document revision history

Date	Revision	Datasheet Status
2024/4/12	Rev 1.0	Production Datasheet

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