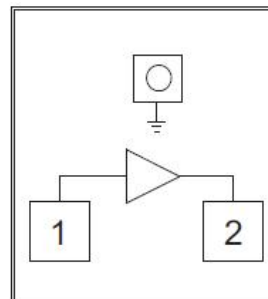


## High Linearity, Low Noise Gain Block Chip, DC-5GHz

### Performance characteristics

- Operating frequency: 0.1 - 5 GHz
- Noise figure: 3.0 dB
- Small signal gain: 16.5dB
- Gain flatness:  $\pm 1.1$ dB
- P-1dB: 15dBm
- OIP3: 28 dBm
- 50Ohm input and output
- + 8V / 50mA
- DIE: 0.5 x 0.5 x 0.1mm

### Functional Block Diagram



### Use restriction parameter <sup>1</sup>

Input power	+20dBm
Operating Current	80mA
Operating temperature	-55 ~ + 105 °C
Storage temperature	-65 ~ +150°C

【1】 Exceeding any of these maximum limits may cause permanent damage.

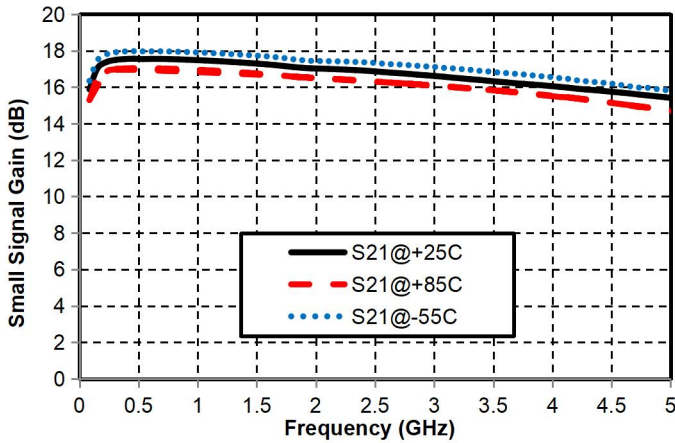
### Electrical performance parameters ( TA = +25°C , Vcc = +8V, R = 110Ω )

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	0.1-5			GHz
Small Signal Gain	-	16.5	-	dB
Gain Flatness	-	$\pm 1.1$	-	
Input return loss	-	12	-	dB
Output return loss	-	17	-	dB
Reverse Isolation	-	26	-	dB
P-1 dB	-	15	-	dBm
Psat	-	16	-	dBm
OIP3 @with Pout=-5dBm		28		dBm
Noise Figure	-	3.0		dB
Quiescent Current	-	50	-	mA

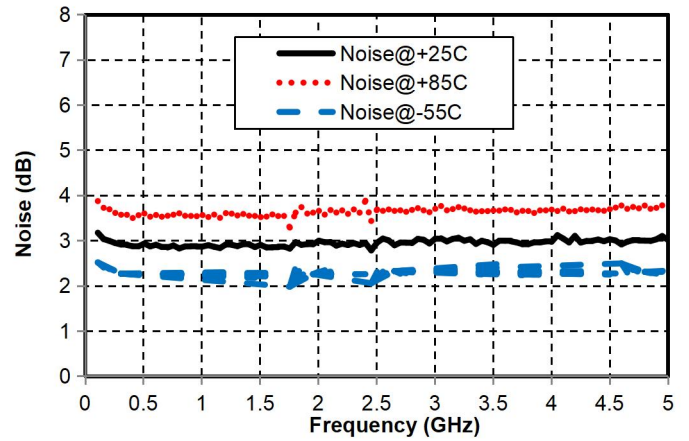
## High Linearity, Low Noise Gain Block Chip, DC-5GHz

### Main index test curve

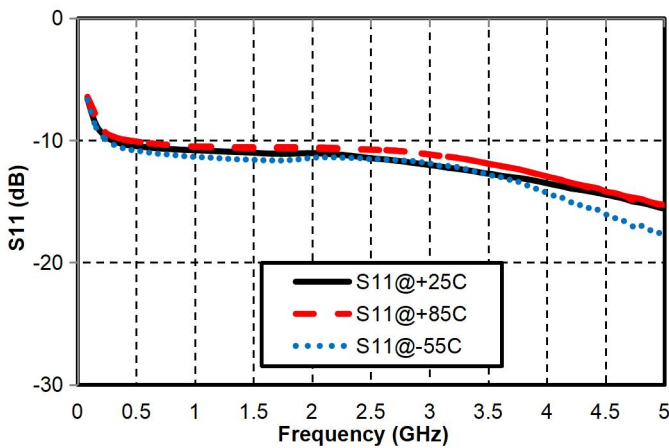
Gain vs. Frequency



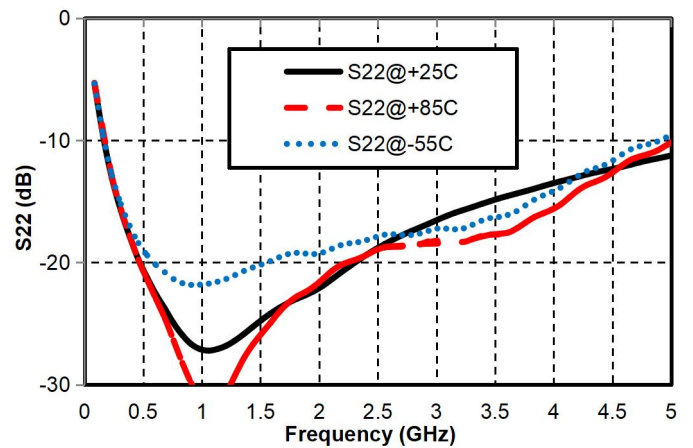
Noise Figure vs. Frequency



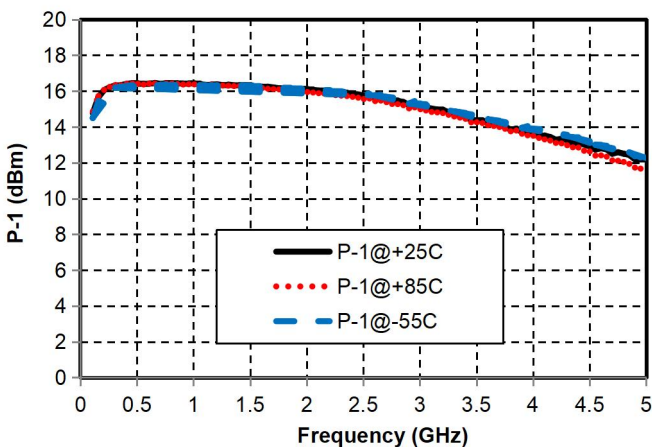
Input Return Loss vs. Frequency



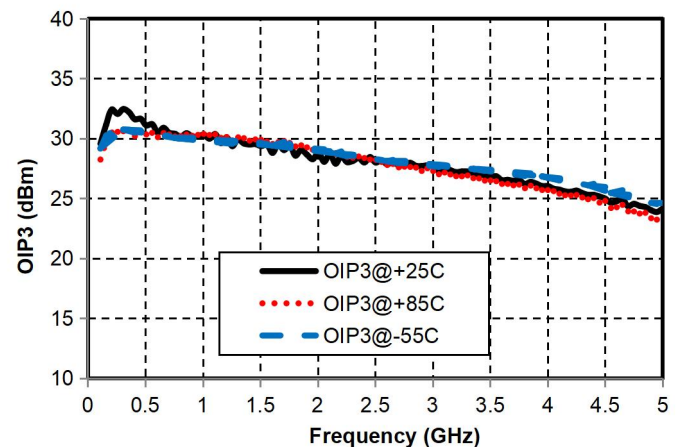
Output Return Loss vs. Frequency



P-1dB vs. Frequency

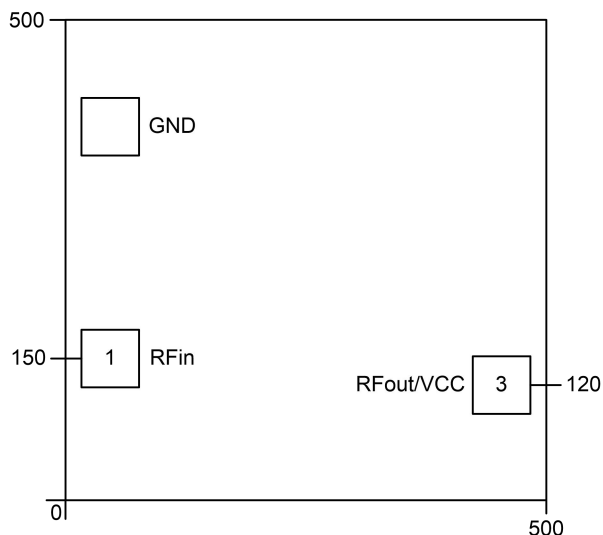


OIP3 vs. Frequency (Pout=-5dBm)



## High Linearity, Low Noise Gain Block Chip, DC-5GHz

### Appearance structure



Bonding point number	Function Symbol	Functional Description
1	RFIN	RF input, external DC blocking capacitor is required
2	RFOUT	RF output and chip DC bias, bias the circuit at the output end through external choke inductor and bias resistor, and require external DC blocking capacitor
Chip bottom	GND	The bottom of the chip needs to be well grounded to RF and DC

\* No soldering is required for the GND pad.

### Recommended circuit diagram

