



MMIC SURFACE MOUNT

# Variable Gain Amplifier

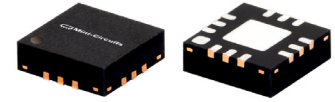
# PVGA-123+

Mini-Circuits

50Ω 0.4 to 12 GHz

### THE BIG DEAL

- Wide Bandwidth 0.4 to 12 GHz
- High OIP3 Typ. +30 dBm
- Single Positive Supply +6V
- Adjustable Gain Range Typ. 16 dB
- 3x3mm 12-Lead QFN-Style Package

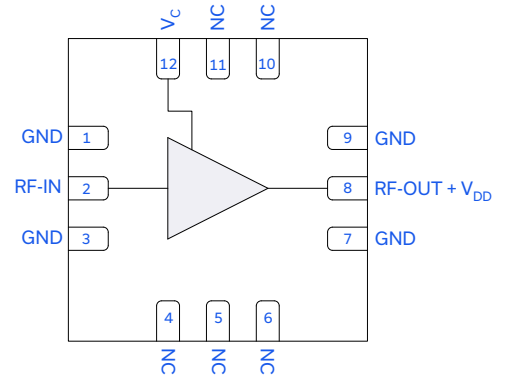


Generic photo used for illustration purposes only

### APPLICATIONS

- Radar, EW, and ECM Defense Systems
- 5G MIMO and Back Haul Radio Systems
- Test and Measurement Equipment

### FUNCTIONAL DIAGRAM



### PRODUCT OVERVIEW

The PVGA-123+ is a GaAs pHEMT high performance variable gain amplifier operating from 0.4 to 12 GHz. The amplifier provides 16 dB Gain, +30 dBm OIP3 and +22 dBm P1dB with 17 dB typical return loss while operating from +6V and 77 mA DC power. The amplifier gain is voltage adjustable over a 16 dB dynamic range while maintaining excellent input IP3. The amplifier is ideal for use in very wideband ECM, Test and Measurement and Back Haul Radio systems.

### KEY FEATURES

Features	Advantages
Wideband: 0.4 to 12 GHz <ul style="list-style-type: none"> <li>• 16 dB Typ. Gain at 6 GHz</li> <li>• 13 dB Typ. Gain at 12 GHz</li> </ul>	Suitable for wide bandwidth defense and test and measurement application as well as narrow band performance driven applications
High P1dB & OIP3 <ul style="list-style-type: none"> <li>• +22 dBm Typ. P1dB</li> <li>• +30 dBm Typ. OIP3</li> </ul>	Suitable as a driver amplifier in receiver/transmitter chains.
Adjustable Gain Range <ul style="list-style-type: none"> <li>• 16 dB</li> </ul>	Enables temperature compensation and power control for transmit and receive signal chains
3x3mm 12-Lead QFN-style package	Small footprint saves space in dense layouts while providing low inductance, repeatable transitions, and excellent thermal contact to the PCB.



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ELECTRICAL SPECIFICATIONS<sup>1</sup> AT 25°C, V<sub>c</sub> = +5V, UNLESS NOTED OTHERWISE

Parameter	Condition (GHz)	V <sub>DD</sub> = +6V			V <sub>DD</sub> = +5V			Units
		Min.	Typ.	Max.	Min.	Typ.	Max.	
Frequency Range		0.4		12	0.4		12	GHz
Gain	0.4	15.2	16.8			18.9		dB
	4	15.0	16.9			18.7		
	6	14.3	16.3			18.0		
	8	13.8	15.7			17.8		
	12	10.9	12.9			16.9		
Output Power at 1 dB Compression (P1dB)	0.4		+20.9			+18.9		dBm
	4		+20.7			+18.7		
	6		+19.9			+18.0		
	8		+19.7			+17.8		
	12		+18.9			+16.9		
Output Power at 3 dB Compression (P3dB) <sup>2</sup>	0.4		+21.9			+20.0		dBm
	4		+21.7			+19.9		
	6		+21.4			+19.2		
	8		+21.2			+19.2		
	12		+19.6			+17.7		
Output Third-Order Intercept P <sub>OUT</sub> = -5 dBm/Tone	0.4		+27			+26		dBm
	4		+33			+33		
	6		+30			+30		
	8		+28			+27		
	12		+28			+27		
Input Return Loss	0.4	13	18			18		dB
	4	14	19			19		
	6	12	17			17		
	8	10	13			14		
	12	8	11			11		
Output Return Loss	0.4	12	18			18		dB
	4	12	18			17		
	6	10	14			13		
	8	11	16			16		
	12	7	11			10		
Isolation	0.4		26			26		dB
	4		27			27		
	6		29			29		
	8		29			29		
	12		29			29		
Noise Figure	0.4		5.4			5.7		dB
	4		4.3			4.3		
	6		4.2			4.3		
	8		4.3			4.3		
	12		4.5			4.5		
Device Operating Voltage (V <sub>DD</sub> )			6			5		V
Device Operating Current (I <sub>DD</sub> ) <sup>3</sup>			77			73		mA
DC Current Variation vs. Temperature <sup>4</sup>			26.9			42.5		μA/°C
DC Current Variation vs. Voltage <sup>5</sup>			0.004					mA/mV

1. Tested in Mini-Circuits Evaluation Board TB-PVGA-123C+. See Figure 2. Board loss de-embedded to the device.

2. Defined as Output Power at which gain is compressed 3dB.

3. Current at P<sub>IN</sub> = -25 dBm.

4. ((Current at +85°C - Current at -45°C)/(+130°C))

5. ((Current at +6V in mA) - (Current at +5V mA))/((+6V - +5V)\*1000)





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### ELECTRICAL SPECIFICATIONS<sup>6</sup> OVER VARIOUS $V_C$ AT 25°C, $V_{DD} = +6V$ , UNLESS NOTED OTHERWISE

Parameter	Frequency (GHz)	Control Voltage, $V_C$						Units
		+0.8V	+1V	+2V	+3V	+4V	+5V	
DC Current, Typ.	-	3	11	30	43	59	77	mA
Gain, Typ.	0.4	5.6	8.3	11.1	14.5	16.1	16.8	dB
	4	3.2	7.1	10.7	14.4	16.1	16.9	
	6	-0.1	4.9	9.2	13.4	15.4	16.3	
	8	-1.7	3.8	8.7	12.9	14.8	15.7	
	12	-4.5	1.5	7.1	10.9	12.3	12.9	
Isolation, Typ.	0.4	18	19	21	23	25	26	dB
	4	20	21	22	25	26	27	
	6	23	23	24	26	28	29	
	8	24	24	24	26	28	29	
	12	25	24	24	26	28	29	
Input Return Loss, Typ.	0.4	8	10	16	27	21	18	dB
	4	10	12	18	25	21	19	
	6	9	10	13	15	16	17	
	8	11	11	12	13	13	13	
	12	13	13	12	12	11	11	
Output Return Loss, Typ.	0.4	5	6	10	22	27	18	dB
	4	5	7	9	16	19	18	
	6	4	5	7	10	12	14	
	8	5	6	8	11	14	16	
	12	7	7	9	11	11	11	
Output Power at 1 dB Compression (P1dB), Typ.	0.4	+21.8	+21.8	+22.0	+21.7	+21.1	+20.9	dBm
	4	+21.4	+21.4	+21.4	+21.2	+20.9	+20.7	
	6	+20.9	+21.1	+20.9	+20.5	+20.2	+19.9	
	8	+20.8	+21.1	+21.4	+20.8	+20.1	+19.7	
	12	+19.9	+20.5	+20.6	+18.9	+18.8	+18.9	
Output Power at 3 dB Compression (P3dB) <sup>7</sup> , Typ.	0.4	+21.8	+21.8	+22.1	+22.3	+22.1	+21.9	dBm
	4	+21.5	+21.4	+21.6	+21.7	+21.8	+21.7	
	6	+20.8	+21.0	+21.3	+21.4	+21.4	+21.4	
	8	+20.6	+21.0	+21.5	+21.5	+21.3	+21.2	
	12	+19.9	+20.2	+20.8	+19.5	+19.5	+19.6	
Output Third-Order Intercept, Typ. ( $P_{OUT} = -5$ dBm/Tone)	0.4	+10	+13	+12	+20	+26	+27	dBm
	4	+9	+14	+13	+23	+30	+33	
	6	+8	+17	+13	+24	+27	+30	
	8	+8	+19	+12	+23	+26	+28	
	12	+7	+14	+13	+22	+26	+28	
Noise Figure, Typ.	0.4	9.7	9.1	7.5	6.1	5.6	5.4	dB
	4	6.3	5.4	5.0	4.4	4.3	4.3	
	6	7.3	5.6	5.0	4.4	4.2	4.2	
	8	7.5	5.6	4.9	4.4	4.2	4.3	
	12	9.5	6.6	5.3	4.6	4.5	4.5	

6. Tested in Mini-Circuits Characterization Test/Evaluation Board TB-PVGA-123C+. See Figure 2. Board loss de-embedded to the device.

7. Defined as Output Power at which gain is compressed 3dB.



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### ELECTRICAL SPECIFICATIONS<sup>8</sup> OVER VARIOUS V<sub>C</sub> AT 25°C, V<sub>DD</sub> = +5V, UNLESS NOTED OTHERWISE

Parameter	Frequency (GHz)	Control Voltage, V <sub>C</sub>						Units
		+0.8V	+1V	+2V	+3V	+4V	+5V	
DC Current, Typ.	-	2	10	29	41	56	73	mA
Gain, Typ.	0.4	4.9	8.2	10.6	14.5	15.8	16.6	dB
	4	2.1	7.0	10.2	14.4	15.8	16.7	
	6	-1.3	4.7	8.6	13.5	15.1	16.1	
	8	-3.0	3.6	8.1	13.0	14.5	15.5	
	12	-5.7	1.3	6.4	10.8	12.0	12.8	
Isolation, Typ.	0.4	18	19	21	23	25	26	dB
	4	20	21	23	25	27	27	
	6	23	23	24	26	28	29	
	8	24	24	24	26	28	29	
	12	25	24	24	27	28	29	
Input Return Loss, Typ.	0.4	8	10	16	26	22	18	dB
	4	10	12	17	25	22	19	
	6	9	10	12	15	16	17	
	8	11	11	12	13	13	14	
	12	13	13	13	12	12	11	
Output Return Loss, Typ.	0.4	5	6	9	19	32	18	dB
	4	5	7	9	15	18	17	
	6	4	5	6	9	12	13	
	8	5	6	7	11	14	16	
	12	6	7	9	11	11	10	
Output Power at 1 dB Compression (P1dB), Typ.	0.4	+19.3	+19.5	+19.9	+19.7	+19.2	+18.9	dBm
	4	+19.2	+19.4	+19.5	+19.0	+18.7	+18.7	
	6	+19.0	+19.2	+18.6	+18.1	+18.0	+18.0	
	8	+19.5	+19.5	+19.5	+18.7	+18.1	+17.8	
	12	+18.6	+19.2	+18.8	+17.1	+16.8	+16.9	
Output Power at 3 dB Compression (P3dB) <sup>9</sup> , Typ.	0.4	+19.3	+19.3	+20.0	+20.3	+20.2	+20.0	dBm
	4	+19.2	+19.2	+19.7	+19.9	+20.0	+19.9	
	6	+19.1	+19.1	+19.5	+19.5	+19.4	+19.2	
	8	+19.3	+19.5	+19.8	+19.7	+19.4	+19.2	
	12	+18.6	+19.0	+19.1	+17.7	+17.6	+17.7	
Output Third-Order Intercept, Typ. (P <sub>OUT</sub> = -5 dBm/Tone)	0.4	+9	+13	+11	+19	+24	+26	dBm
	4	+8	+14	+13	+21	+29	+33	
	6	+7	+17	+12	+22	+27	+30	
	8	+7	+19	+12	+21	+25	+27	
	12	+6	+14	+12	+20	+25	+27	
Noise Figure, Typ.	0.4	9.8	9.6	7.9	6.3	6.0	5.7	dB
	4	6.8	5.4	5.1	4.5	4.3	4.3	
	6	8.1	5.7	5.1	4.5	4.3	4.3	
	8	8.2	5.7	5.0	4.4	4.3	4.3	
	12	10.3	6.8	5.4	4.7	4.5	4.5	

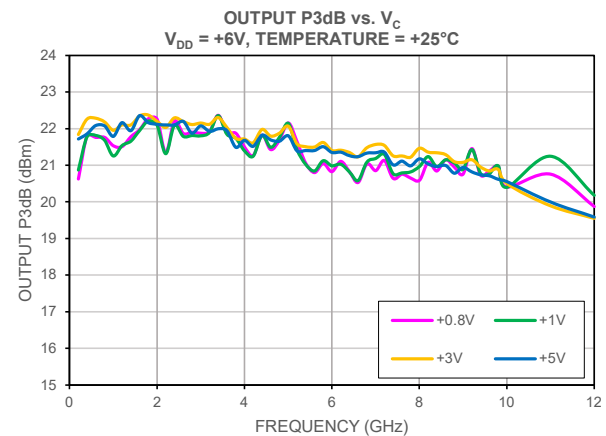
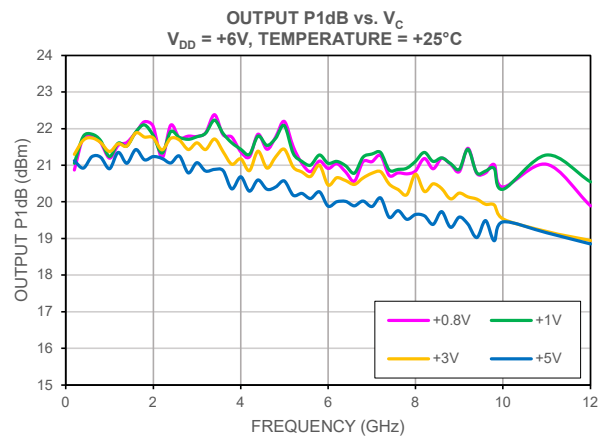
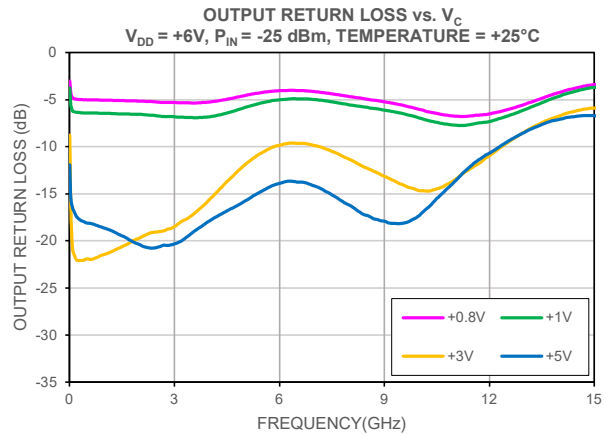
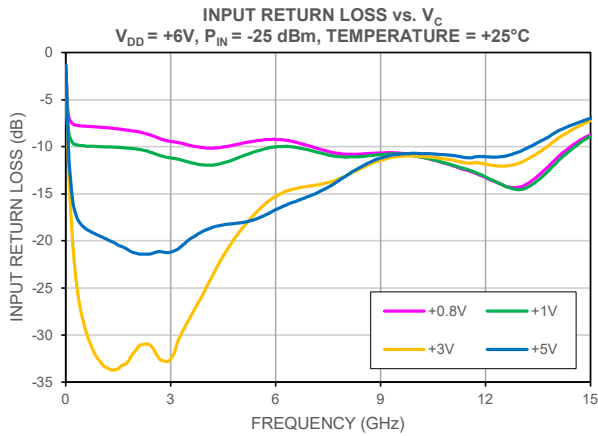
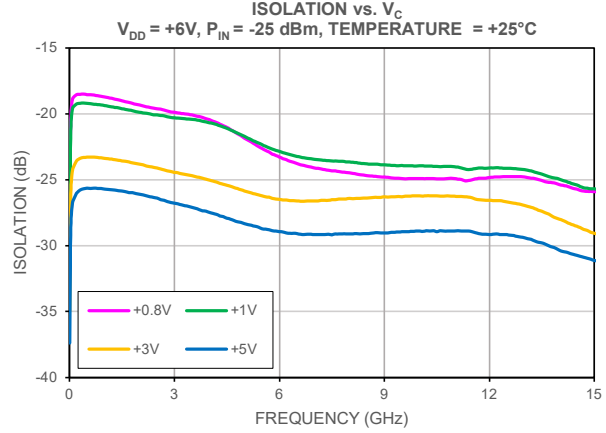
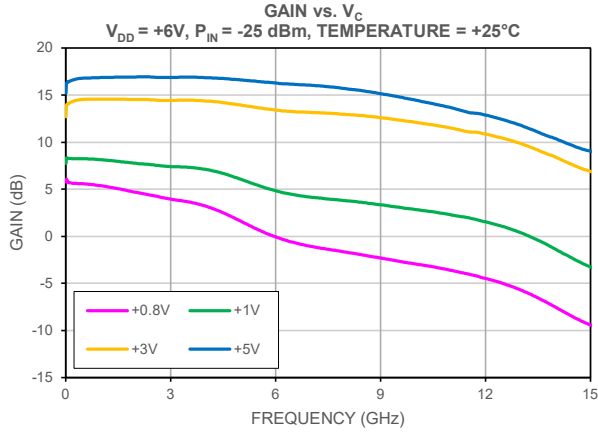
8. Tested in Mini-Circuits Evaluation Board TB-PVGA-123C+. See Figure 2. Board loss de-embedded to the device.

9. Defined as Output Power at which gain is compressed 3dB.



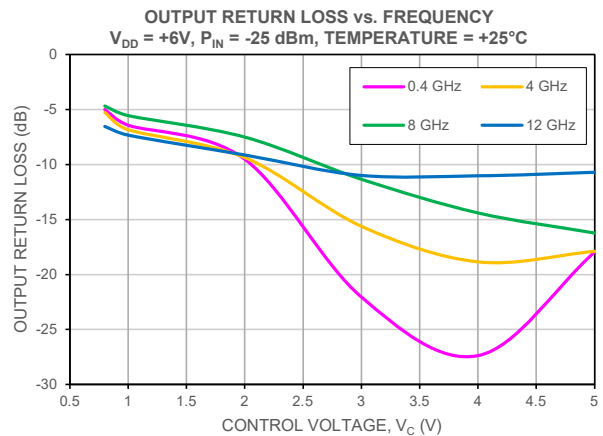
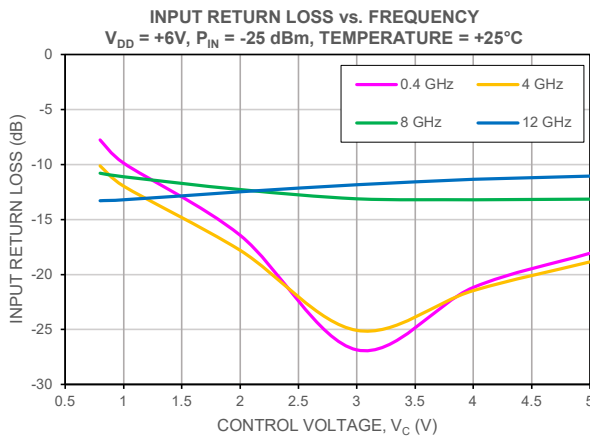
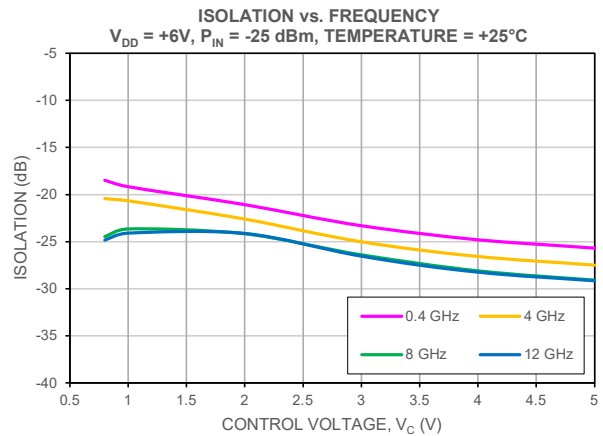
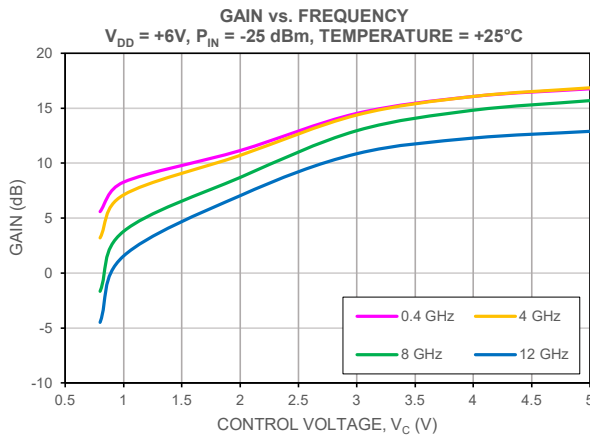
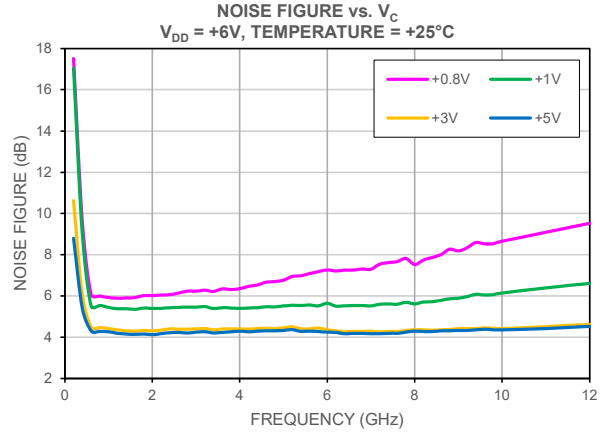
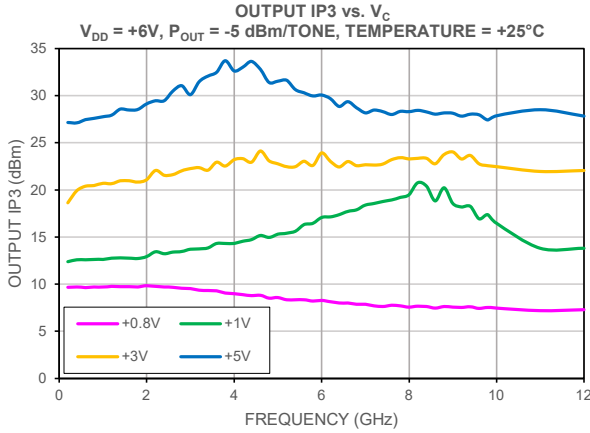


### TYPICAL PERFORMANCE GRAPHS



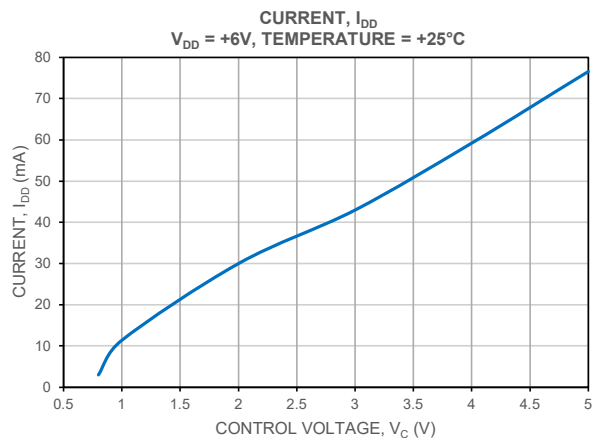
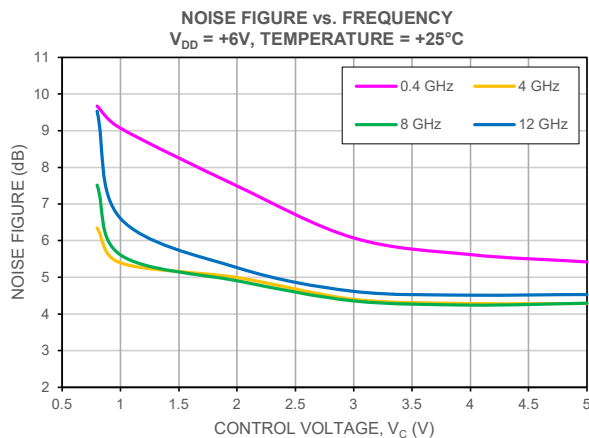
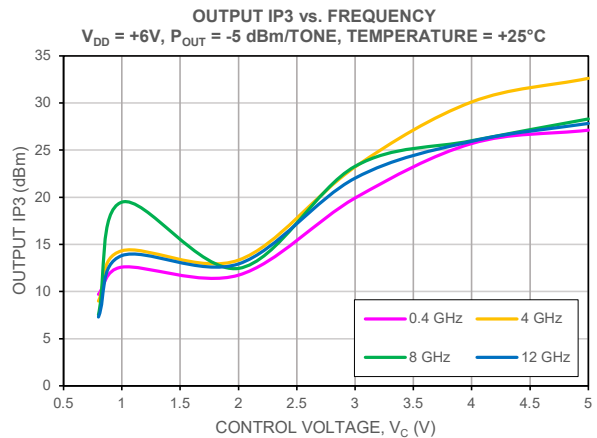
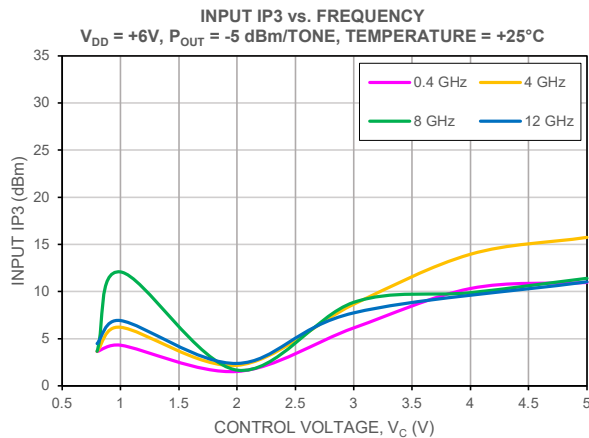
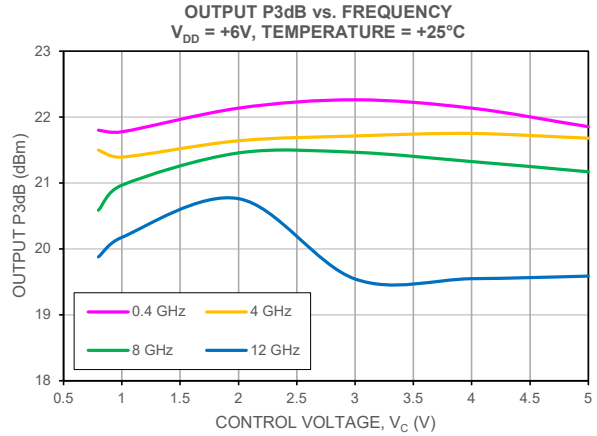
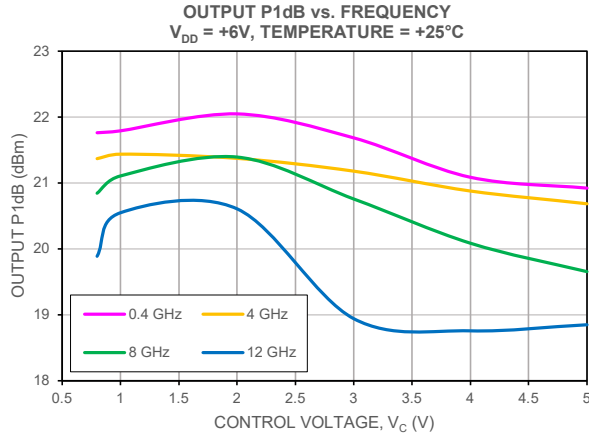


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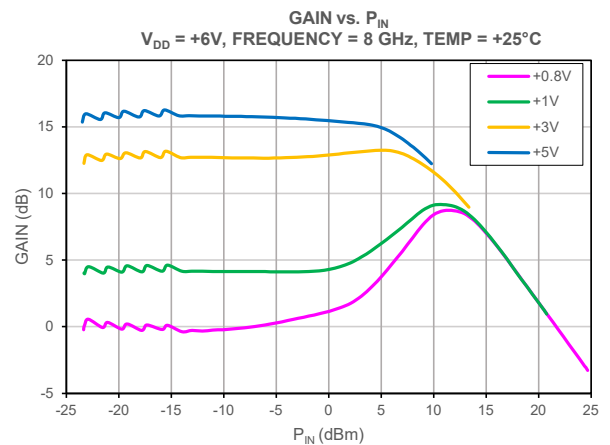
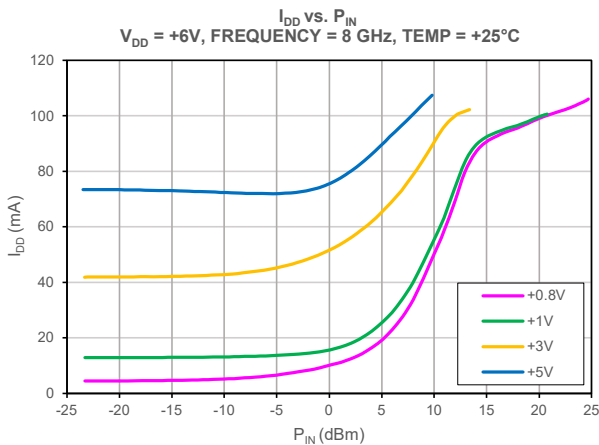
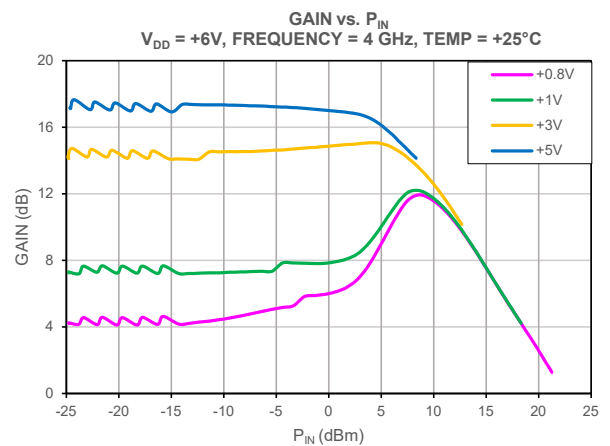
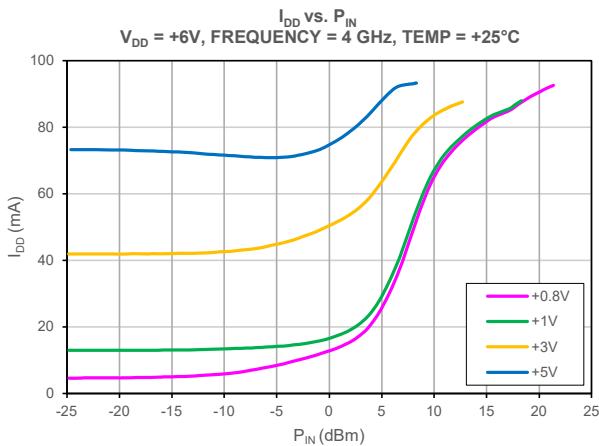
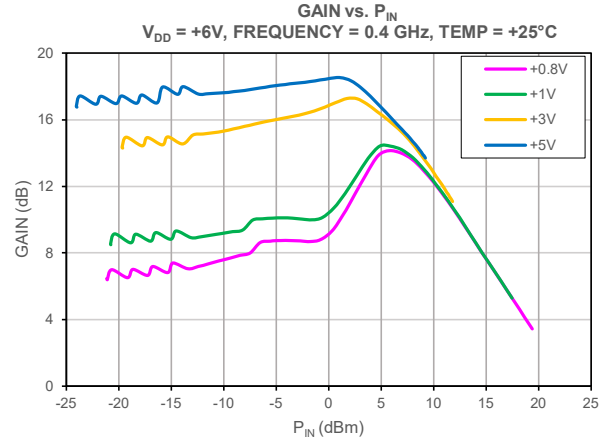
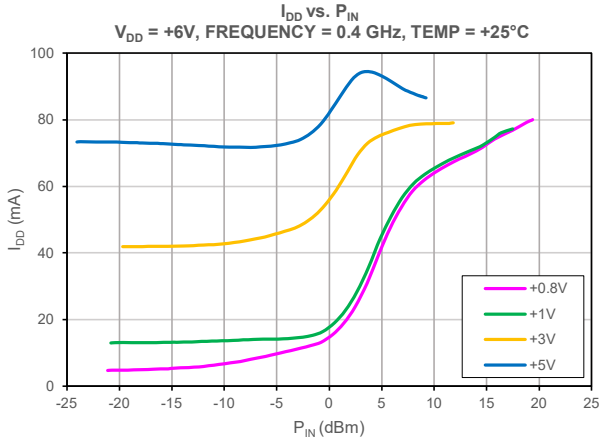


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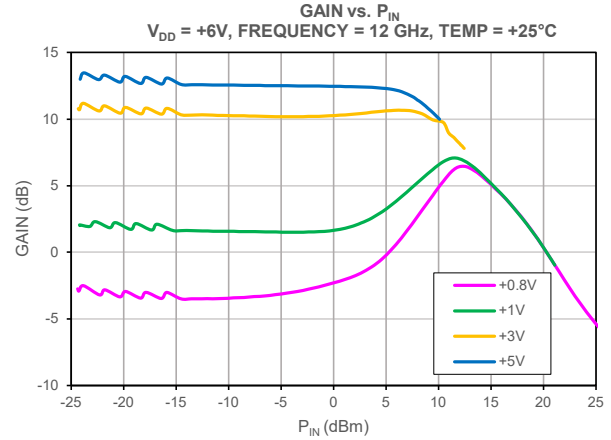
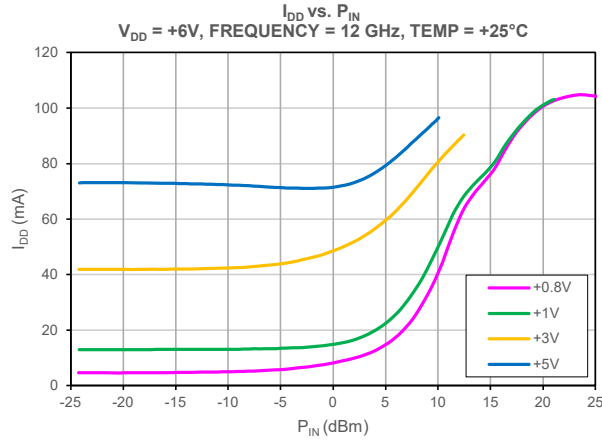
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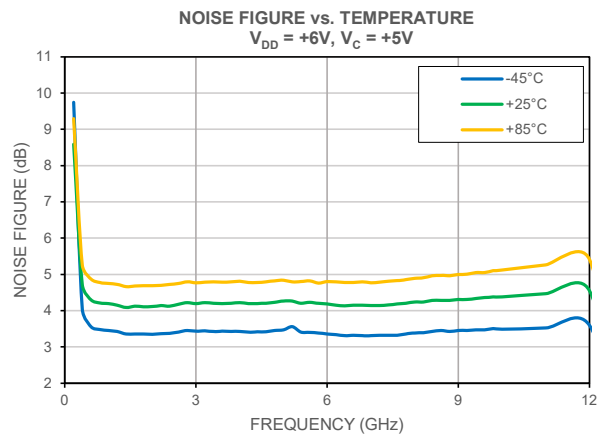
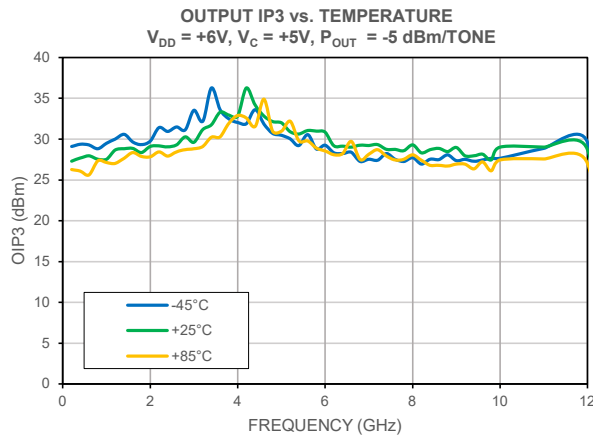
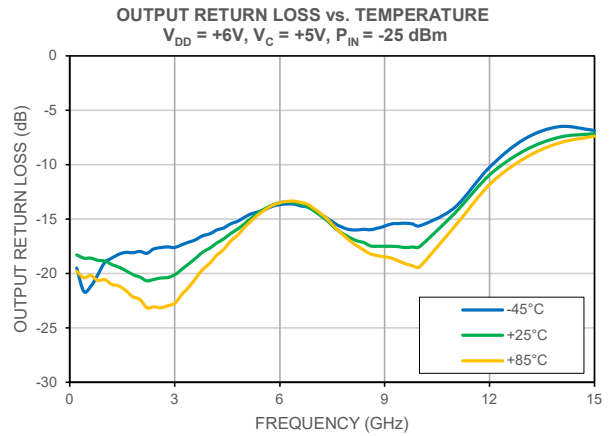
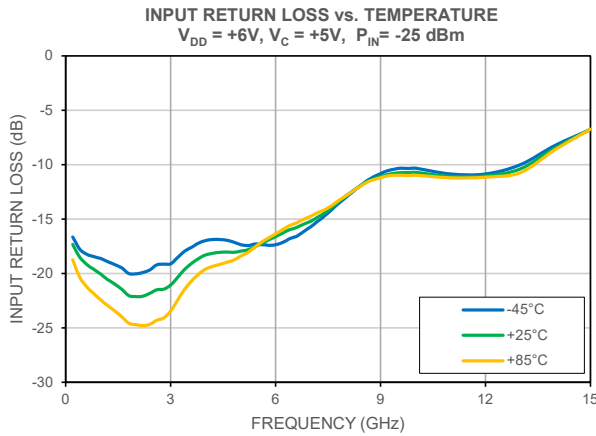
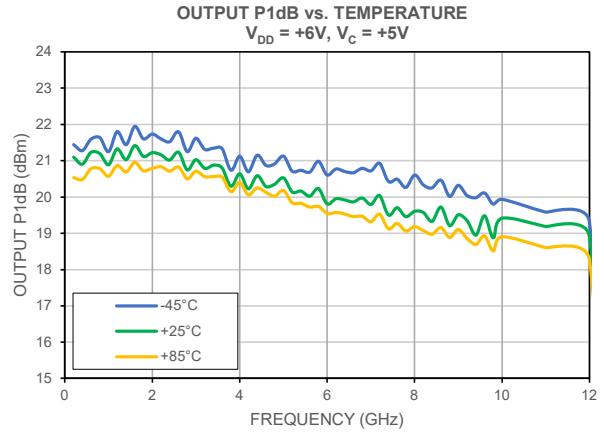
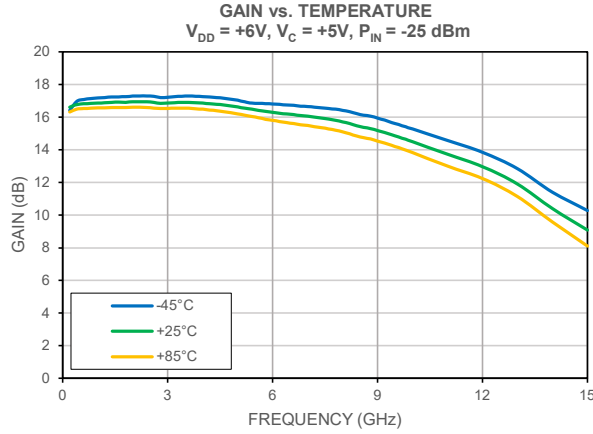
50Ω 0.4 to 12 GHz

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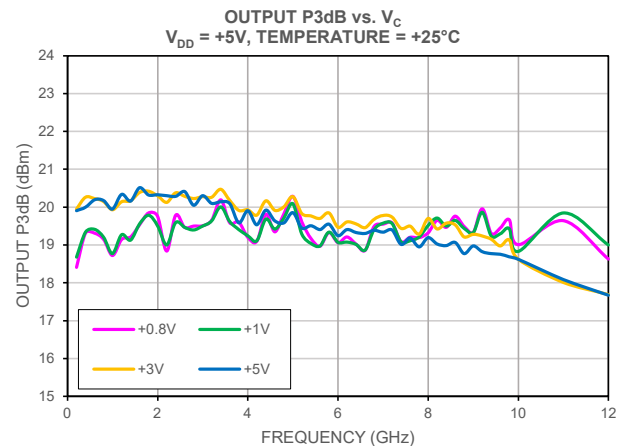
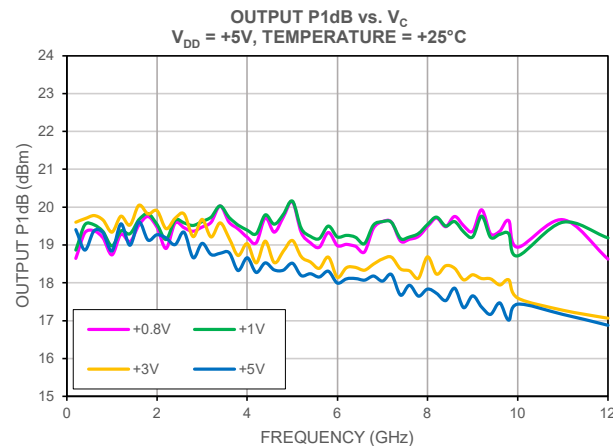
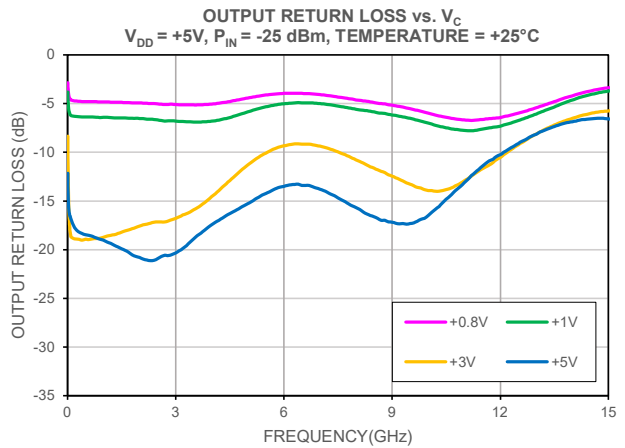
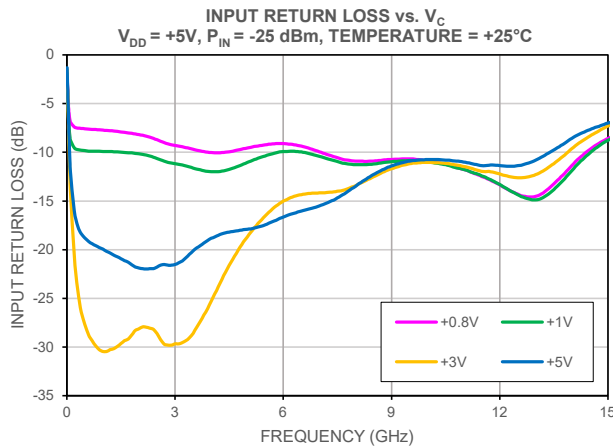
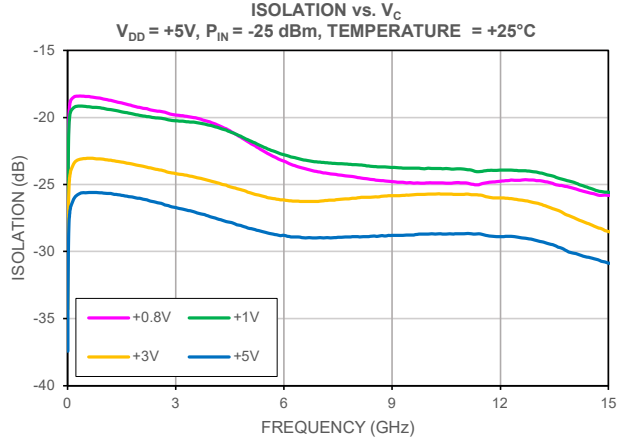
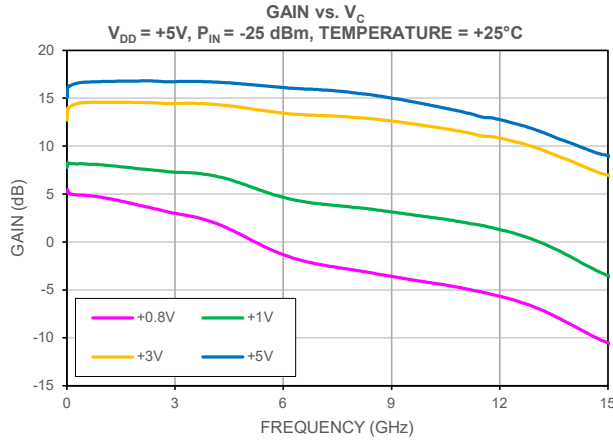


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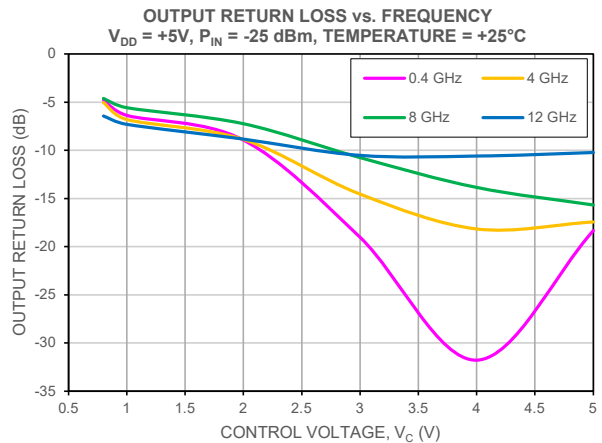
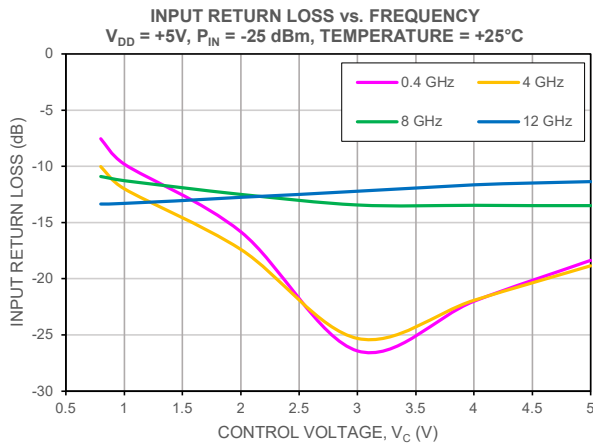
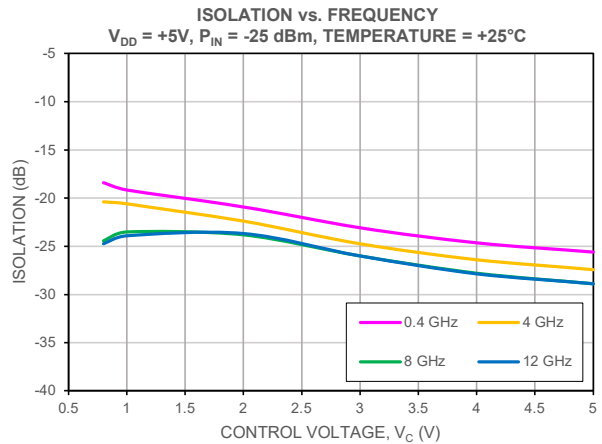
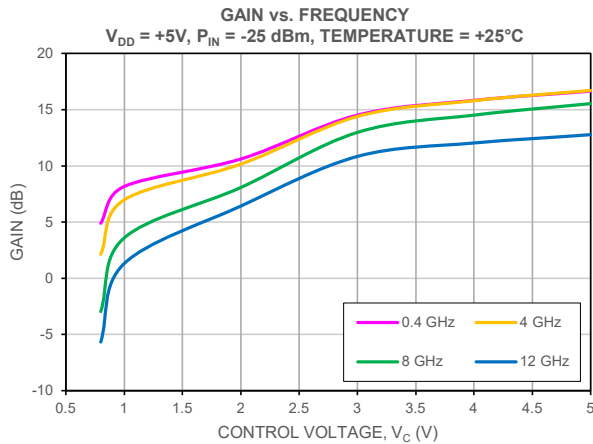
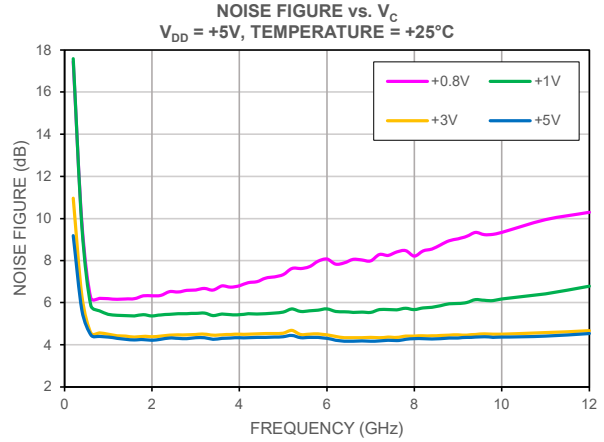
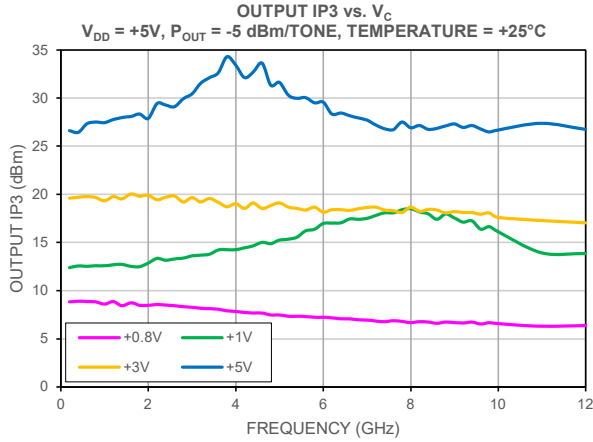


### TYPICAL PERFORMANCE GRAPHS



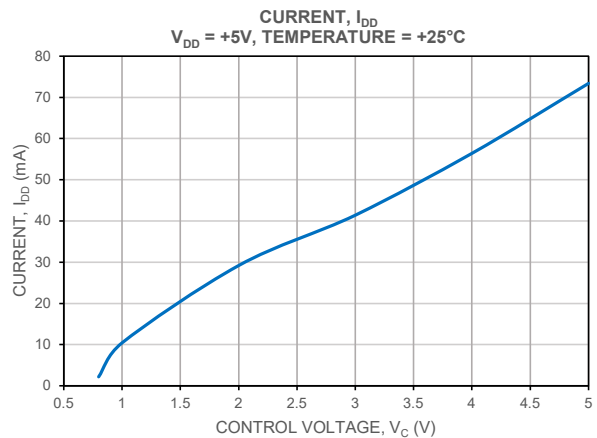
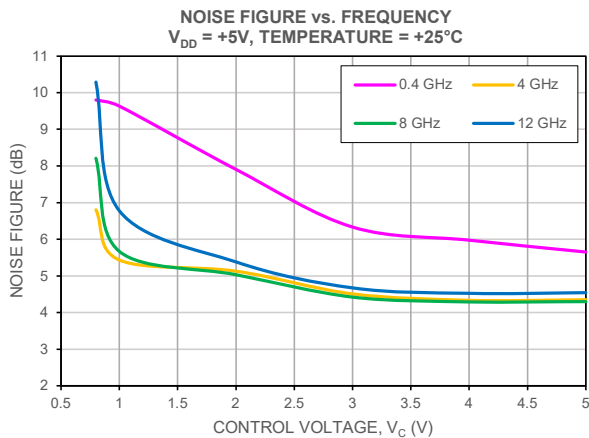
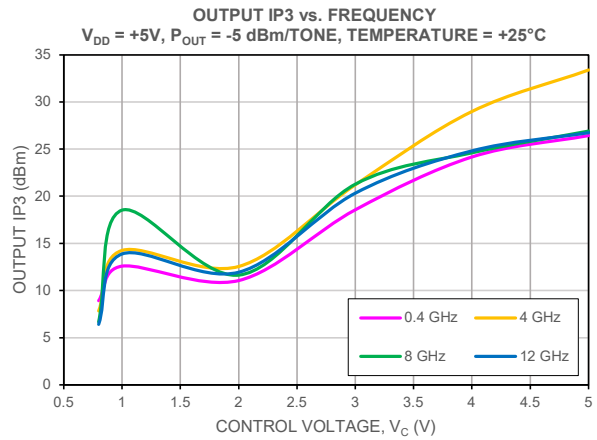
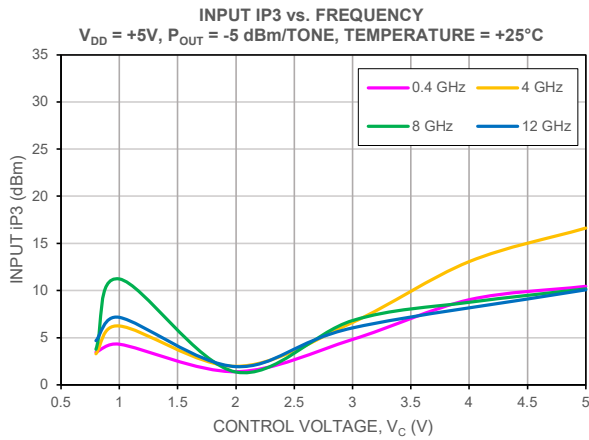
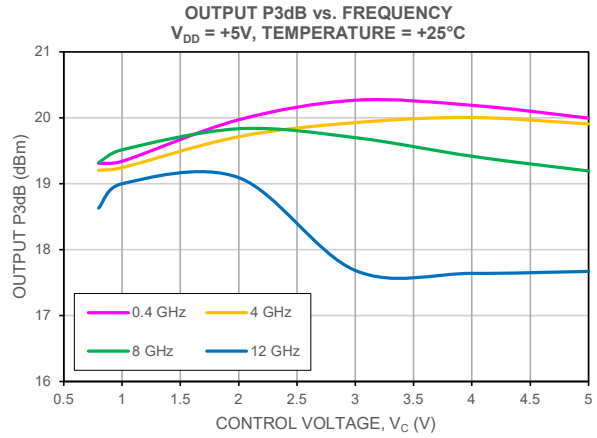
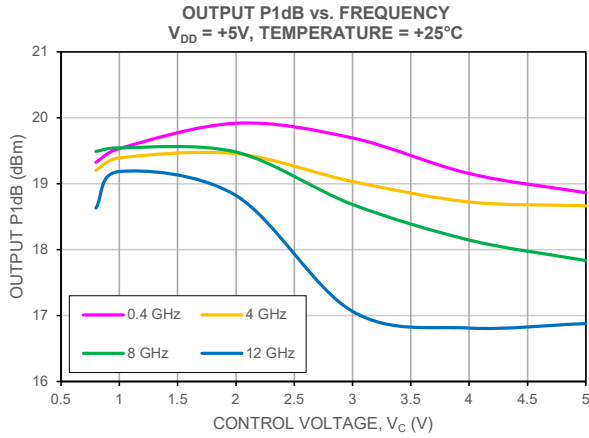


### TYPICAL PERFORMANCE GRAPHS



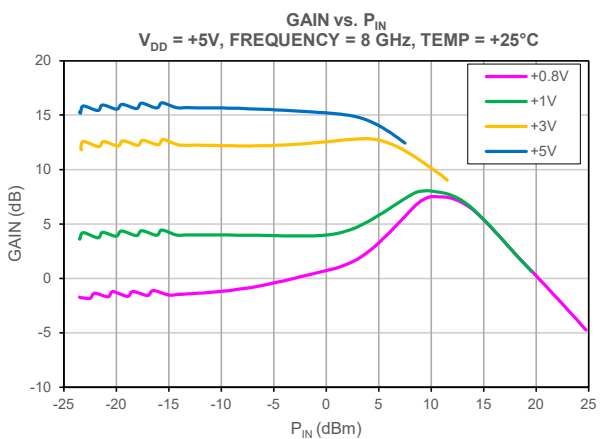
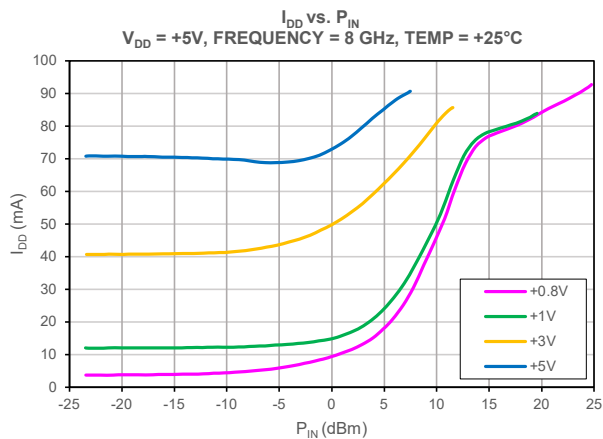
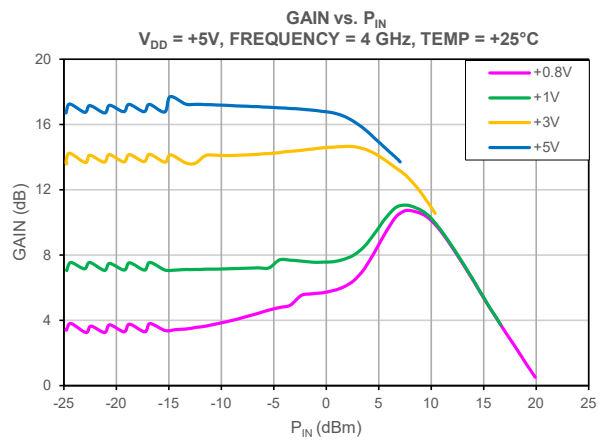
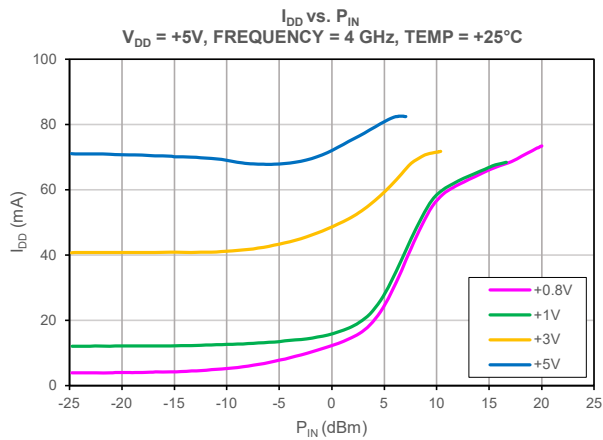
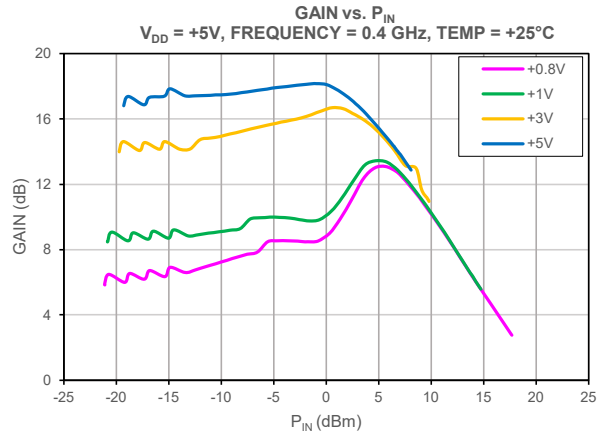
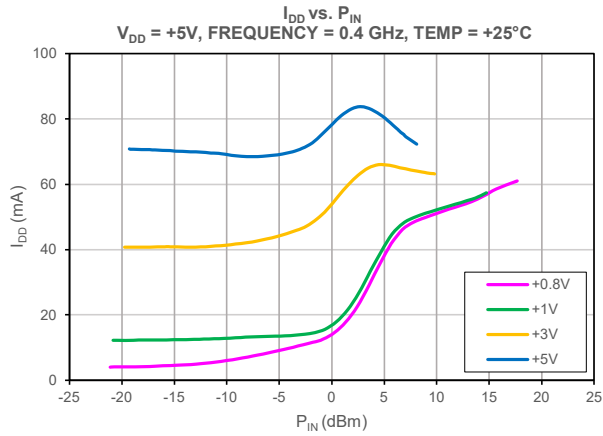


### TYPICAL PERFORMANCE GRAPHS





### TYPICAL PERFORMANCE GRAPHS





MMIC SURFACE MOUNT

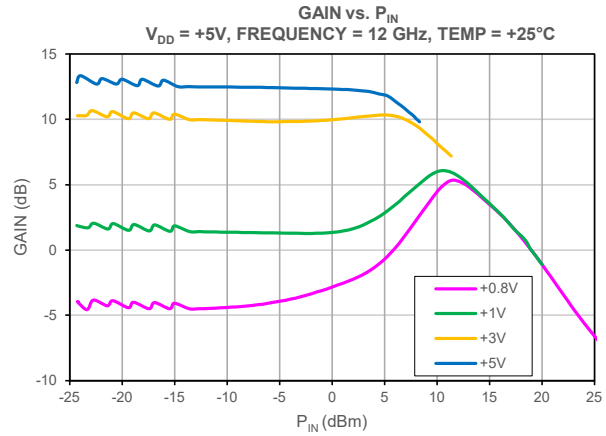
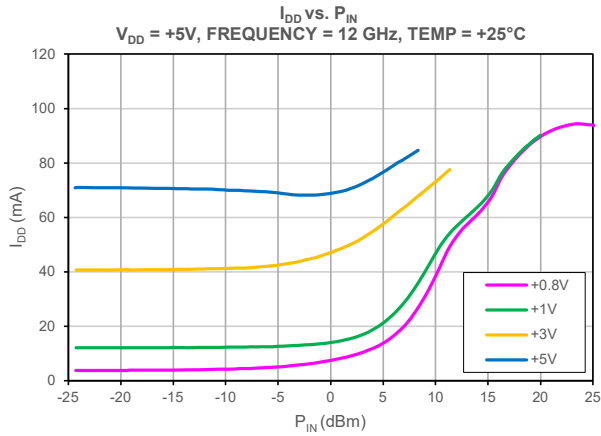
# Variable Gain Amplifier

## PVGA-123+

Mini-Circuits

50Ω 0.4 to 12 GHz

### TYPICAL PERFORMANCE GRAPHS





MMIC SURFACE MOUNT

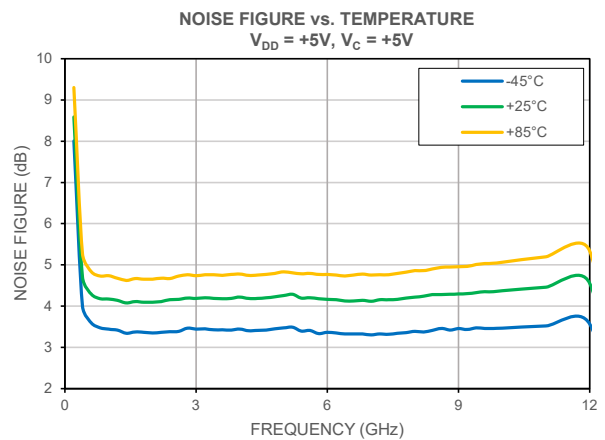
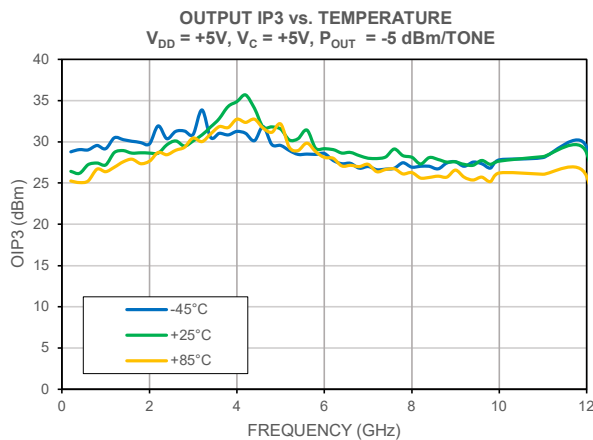
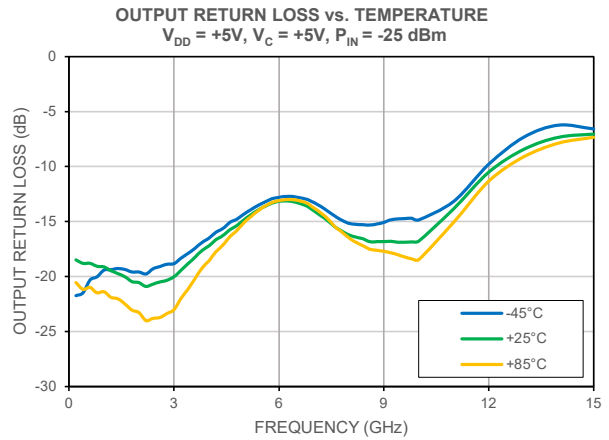
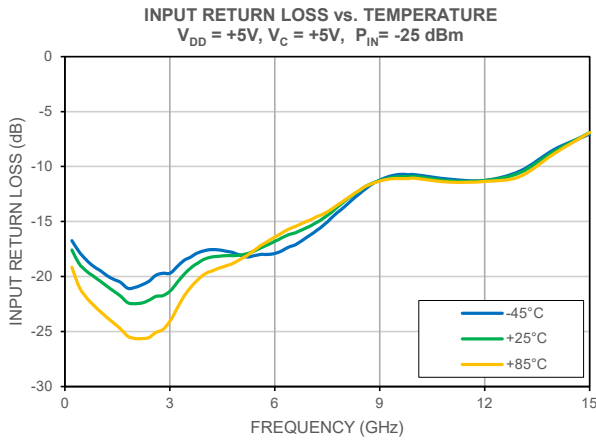
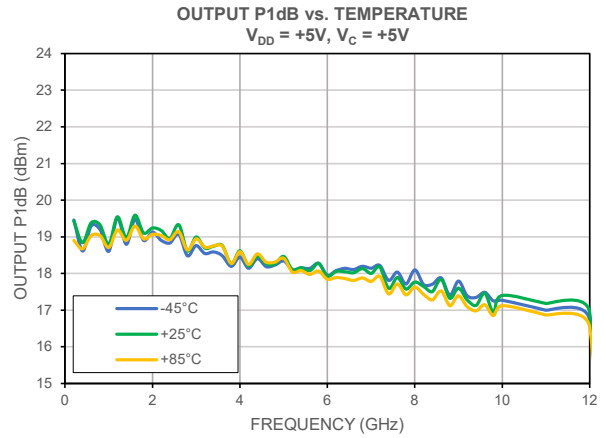
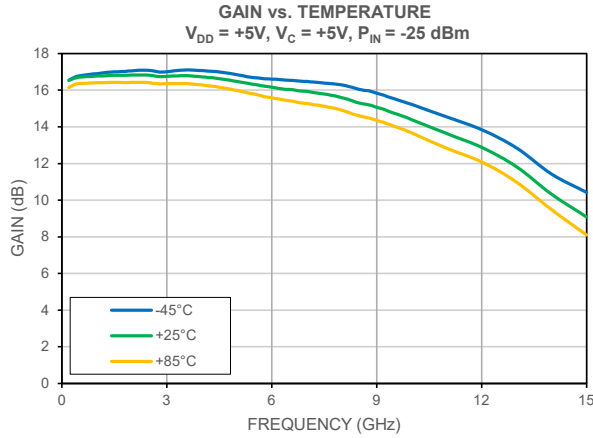
# Variable Gain Amplifier

# PVGA-123+

Mini-Circuits

50Ω 0.4 to 12 GHz

## TYPICAL PERFORMANCE GRAPHS







## MMIC SURFACE MOUNT

# Variable Gain Amplifier **PVGA-123+**

50Ω 0.4 to 12 GHz

### ABSOLUTE MAXIMUM RATINGS<sup>10</sup>

Parameter	Ratings
Operating Temperature (ground lead)	-45°C to +85°C
Storage Temperature	-65°C to +150°C
Junction Temperature <sup>11</sup>	+175°C
Total Power Dissipation	1.5 W
Input Power (CW), $V_{DD} = +6V$ , $V_C = +5V$	+23 dBm
DC Voltage at $V_{DD}$ Pad	+10.5V
DC Voltage at $V_C$ Pad	+10.5V

10. Permanent damage may occur if any of these limits are exceeded. Maximum ratings are not intended for continuous normal operation.

11. Peak temperature on top of Die.

### THERMAL RESISTANCE

Parameter	Ratings
Thermal Resistance ( $\theta_{jc}$ ) <sup>12</sup>	53.2 °C/W

12.  $\theta_{jc} = (\text{Hot Spot Temperature on Die} - \text{Temperature at Ground Lead}) / \text{Dissipated Power}$

### ESD RATING

	Class	Voltage Range	Reference Standard
Human Body Model (HBM)	1A	250 to <500V	ANSI/ESDA/JEDEC JS-001-2017
Charged Device Model (CDM)	C3	250 to <500V	JESD22-C101F



ESD HANDLING PRECAUTION: This device is designed to be Class 1A for HBM. Static charges may easily produce potentials higher than this with improper handling and can discharge into DUT and damage it. As a preventive measure industry standard ESD handling precautions should be used at all times to protect the device from ESD damage

### MSL RATING

Moisture Sensitivity: MSL1 in accordance with IPC/JEDEC J-STD-020E /JEDEC J-STD-033C



### FUNCTIONAL DIAGRAM

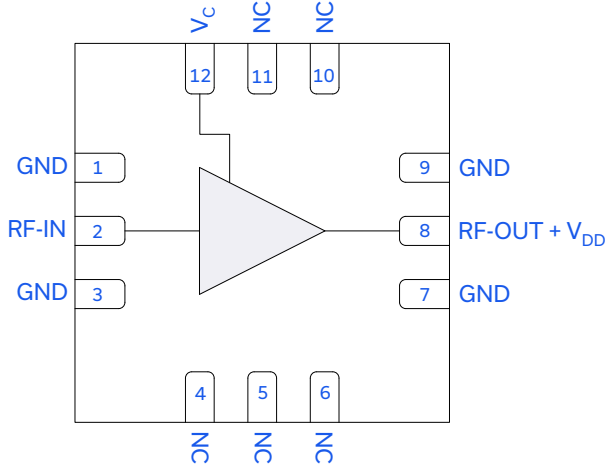


Figure 1. PVGA-123+ Functional Diagram

### PAD DESCRIPTION

Function	Pad Number	Description (Refer to Figure 2)
RF-IN	2	RF-IN Pad connects to RF-Input port.
RF-OUT + V <sub>DD</sub>	8	RF-OUT + DC Pad connects to RF-Output and DC port.
V <sub>c</sub>	12	DC Input Pad connects to control voltage input port V <sub>c</sub> .
GND	1, 3, 7, 9, & Paddle	Connects to ground.
NC	4, 5, 6, 10, 11	Not used internally. Connected to ground on test board.

### EVALUATION BOARD

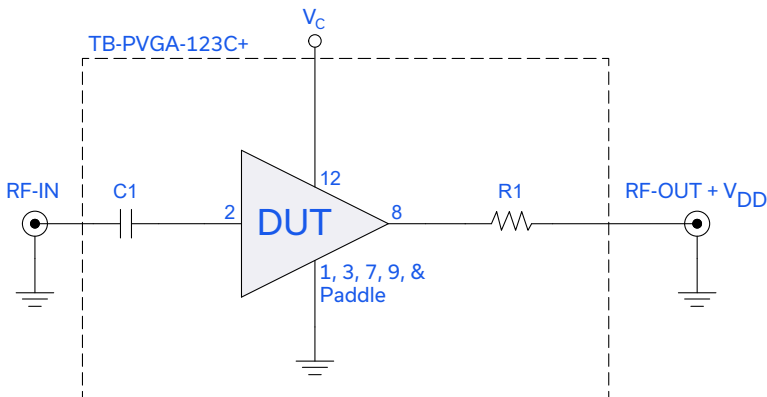


Figure 2. DUT soldered on Mini-Circuits Evaluation Board: TB-PVGA-123C+

#### Electrical Parameters and Conditions

Gain, Return Loss, Output Power at 1dB Compression (P<sub>1dB</sub>), Output IP3 (OIP3) and Noise Figure measured using N5245A PNA-X microwave network analyzer.

#### Conditions:

- Gain and Return Loss: P<sub>IN</sub> = -25 dBm
- Output IP3 (OIP3): Two tones, spaced 1 MHz apart, -5 dBm/tone at output.

Component	Vendor	Vendor P/N	Value	Size
C1	Murata	GRM1555C1H101JA01J	100pF	0402
R1	KOA Speer	RK73Z1ETTP	0Ω	0402



MMIC SURFACE MOUNT

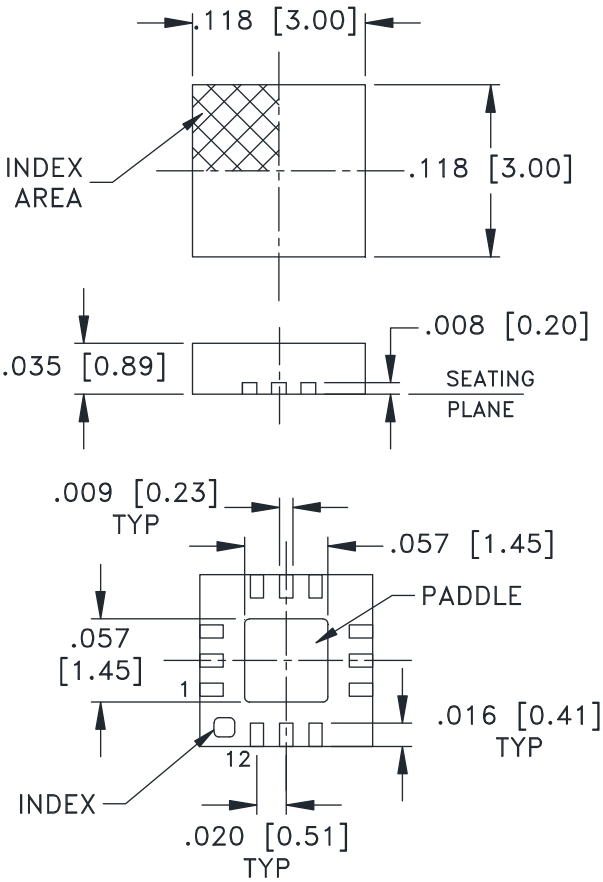
# Variable Gain Amplifier

# PVGA-123+

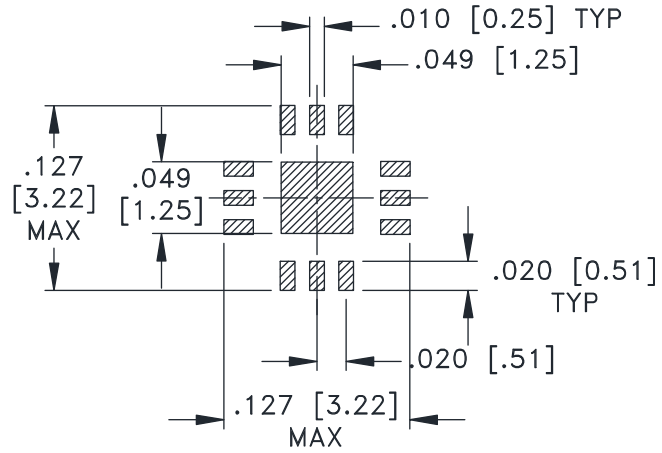
Mini-Circuits

50Ω 0.4 to 12 GHz

## CASE STYLE DRAWING



## PCB Land Pattern

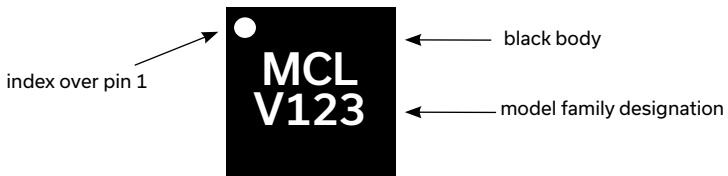


SUGGESTED LAYOUT,  
TOLERANCE TO BE WITHIN ±.002

Weight: .02 Grams

Dimensions are in inches [mm]. 2 Pl. ±.01; 3 Pl. ±.004

## PRODUCT MARKING



Marking may contain other features or characters for internal lot control



MMIC SURFACE MOUNT

# Variable Gain Amplifier

## PVGA-123+

Mini-Circuits

50Ω 0.4 to 12 GHz

ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD. [CLICK HERE](#)

Performance Data	Data Graphs S-Parameter (S2P Files) Data Set (.zip file)
Case Style	DQ1225 Plastic package, exposed paddle, lead finish: Matte-Tin
RoHs Status	Compliant
Tape & Reel	F66
Standard quantities available on reel	7" reels with 20, 50, 100, 200, 500,1K or 2K devices
Suggested Layout for PCB Design	PL-749
Evaluation Board	TB-PVGA-123C+ Gerber File
Environmental Ratings	ENV08T1

### NOTES

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)



## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +5V$ ,  $I_{DD} = 71mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	16.4	25.8	15.9	18.5	1.6	0.9	26.7	21.2	8.6
0.4	16.5	25.5	18.4	19.1	1.6	0.9	27.8	21.1	4.7
0.6	16.6	25.4	19.2	19.3	1.6	0.9	27.4	21.3	4.3
0.8	16.6	25.4	19.8	19.5	1.6	0.9	27.7	21.3	4.2
1.0	16.6	25.5	20.2	19.6	1.6	0.9	27.2	21.0	4.2
1.2	16.6	25.6	20.8	20.0	1.6	0.9	28.2	21.5	4.2
1.4	16.7	25.6	21.2	20.2	1.6	0.9	28.6	21.2	4.1
1.6	16.7	25.7	21.6	20.6	1.6	0.9	28.5	21.6	4.2
1.8	16.7	25.8	22.1	21.0	1.6	0.9	27.8	21.2	4.1
2.0	16.7	25.9	22.4	21.4	1.6	0.9	29.1	21.4	4.1
2.2	16.7	26.0	22.4	21.6	1.7	0.9	29.1	21.3	4.2
2.4	16.7	26.2	22.2	21.7	1.7	0.9	29.5	21.2	4.2
2.6	16.6	26.2	21.8	21.5	1.7	0.9	29.9	21.4	4.2
2.8	16.6	26.5	21.6	21.2	1.8	0.9	30.2	20.9	4.3
3.0	16.6	26.6	21.5	21.2	1.8	0.9	30.3	21.2	4.2
3.2	16.6	26.7	21.0	20.7	1.8	0.9	31.8	20.9	4.3
3.4	16.6	26.8	20.3	20.1	1.8	0.9	32.0	21.0	4.2
3.6	16.6	27.0	19.8	19.5	1.8	0.9	34.3	20.9	4.2
3.8	16.6	27.2	19.3	18.9	1.9	0.9	31.1	20.4	4.2
4.0	16.6	27.3	19.0	18.3	1.9	0.9	31.1	20.8	4.3
4.2	16.5	27.5	18.9	17.9	1.9	0.9	37.1	20.4	4.2
4.4	16.5	27.7	18.9	17.3	2.0	0.9	34.0	20.8	4.2
4.6	16.5	27.8	18.9	16.9	2.0	0.9	32.4	20.5	4.2
4.8	16.4	28.0	18.9	16.4	2.0	0.9	31.9	20.5	4.3
5.0	16.4	28.1	18.9	15.9	2.1	0.9	30.4	20.8	4.3
5.2	16.3	28.3	18.7	15.3	2.1	0.9	30.6	20.4	4.3
5.4	16.2	28.5	18.5	14.7	2.2	0.9	31.3	20.3	4.2
5.6	16.2	28.6	18.2	14.2	2.2	0.9	31.3	20.1	4.3
5.8	16.1	28.7	17.8	13.8	2.2	0.9	30.7	20.4	4.2
6.0	16.1	28.8	17.5	13.6	2.3	0.9	30.9	19.9	4.2
6.2	16.0	28.9	17.2	13.5	2.3	0.9	29.0	20.1	4.2
6.4	16.0	29.0	16.9	13.4	2.3	0.9	28.7	20.1	4.2
6.6	15.9	29.0	16.7	13.6	2.3	0.9	29.0	20.0	4.2
6.8	15.9	29.1	16.4	13.8	2.4	0.9	29.2	20.1	4.2
7.0	15.8	29.1	16.1	14.2	2.4	1.0	28.8	19.9	4.2
7.2	15.8	29.1	15.7	14.6	2.4	1.0	28.5	20.2	4.2
7.4	15.7	29.1	15.3	15.1	2.5	1.0	28.7	19.6	4.2
7.6	15.6	29.1	14.8	15.6	2.5	1.0	28.5	19.8	4.2
7.8	15.5	29.1	14.2	16.0	2.5	1.0	28.3	19.5	4.3
8.0	15.4	29.1	13.6	16.3	2.5	1.0	27.6	19.7	4.3
8.2	15.3	29.1	13.1	16.5	2.5	1.0	28.0	19.7	4.3
8.4	15.2	29.1	12.6	16.6	2.6	1.0	28.0	19.4	4.3
8.6	15.1	29.1	12.1	16.8	2.6	1.0	27.9	19.8	4.3
8.8	15.0	29.0	11.8	16.9	2.6	1.0	27.7	19.3	4.3
9.0	14.9	29.0	11.5	16.9	2.6	1.0	28.4	19.5	4.4
9.2	14.8	29.0	11.3	17.0	2.6	1.0	27.4	19.4	4.4
9.4	14.7	28.9	11.1	17.1	2.6	1.0	27.0	18.9	4.4
9.6	14.5	28.9	11.1	17.1	2.7	1.0	27.9	19.5	4.4
9.8	14.4	29.0	11.1	17.2	2.7	1.0	27.0	18.9	4.4
10.0	14.3	28.9	11.1	17.2	2.8	1.0	29.1	19.4	4.4
11.0	13.5	29.0	11.3	14.6	3.0	1.0	28.9	19.2	4.5
12.0	12.8	29.1	11.0	11.3	3.2	1.0	28.7	19.0	4.6
13.0	11.7	29.4	10.3	9.2	3.5	1.0	-	-	-
14.0	10.1	30.4	8.6	7.9	4.2	1.0	-	-	-
15.0	8.9	31.2	6.8	7.3	4.7	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +4V$ ,  $I_{DD} = 55mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	15.7	24.8	17.9	29.2	1.6	0.9	23.6	21.0	9.3
0.4	15.8	24.4	21.8	31.5	1.5	0.9	25.6	20.9	4.8
0.6	15.9	24.5	23.5	31.8	1.5	0.9	25.1	21.1	4.4
0.8	15.9	24.5	24.4	32.8	1.5	0.9	24.9	21.1	4.3
1.0	15.9	24.6	25.2	34.2	1.6	0.9	25.2	20.7	4.2
1.2	15.9	24.6	26.2	35.0	1.6	0.9	25.0	21.2	4.2
1.4	15.9	24.6	26.9	38.0	1.6	0.9	26.4	20.9	4.2
1.6	15.9	24.8	27.8	39.0	1.6	0.9	25.8	21.3	4.2
1.8	15.9	24.9	28.5	42.0	1.6	0.9	25.8	21.0	4.2
2.0	15.9	24.9	29.3	41.3	1.6	0.9	27.1	21.1	4.2
2.2	15.9	25.1	28.9	39.0	1.6	0.9	26.9	21.0	4.2
2.4	15.9	25.2	28.4	34.7	1.7	0.9	27.0	21.0	4.3
2.6	15.9	25.3	27.6	32.5	1.7	0.9	26.4	21.2	4.3
2.8	15.8	25.5	26.8	29.2	1.7	0.9	27.7	20.7	4.3
3.0	15.8	25.6	26.5	27.8	1.7	0.9	27.3	21.0	4.3
3.2	15.9	25.7	25.5	25.4	1.8	0.9	28.1	20.8	4.3
3.4	15.9	25.8	24.2	23.4	1.8	0.9	28.2	20.9	4.3
3.6	15.9	26.0	23.2	21.9	1.8	0.9	32.2	20.8	4.2
3.8	15.9	26.1	22.4	20.3	1.8	0.9	30.8	20.4	4.3
4.0	15.8	26.3	21.7	19.2	1.9	0.9	30.5	20.6	4.3
4.2	15.8	26.4	21.2	18.1	1.9	0.9	30.4	20.2	4.3
4.4	15.7	26.5	20.8	17.2	1.9	0.9	28.6	20.6	4.3
4.6	15.7	26.7	20.5	16.2	2.0	0.9	31.4	20.3	4.3
4.8	15.6	26.9	20.0	15.5	2.0	0.9	29.6	20.5	4.3
5.0	15.5	27.1	19.5	14.7	2.0	0.9	28.1	20.7	4.3
5.2	15.4	27.3	19.0	14.0	2.1	0.9	29.2	20.3	4.3
5.4	15.3	27.4	18.5	13.4	2.1	0.9	27.8	20.2	4.3
5.6	15.3	27.6	17.9	12.8	2.1	0.9	27.9	20.0	4.3
5.8	15.2	27.7	17.4	12.4	2.2	0.9	27.1	20.4	4.3
6.0	15.1	27.8	16.9	12.1	2.2	0.9	27.6	19.9	4.2
6.2	15.1	27.8	16.6	12.0	2.2	0.9	26.3	20.1	4.2
6.4	15.0	27.9	16.3	11.8	2.2	0.9	26.4	20.0	4.2
6.6	15.0	27.9	16.1	11.8	2.2	0.9	26.6	19.7	4.2
6.8	14.9	27.9	15.9	11.8	2.3	0.9	25.8	20.0	4.2
7.0	14.9	27.9	15.6	11.9	2.3	0.9	26.2	19.9	4.2
7.2	14.8	28.0	15.3	12.2	2.3	0.9	25.3	20.1	4.2
7.4	14.8	28.0	14.9	12.4	2.3	0.9	25.9	19.7	4.2
7.6	14.7	27.9	14.5	12.8	2.3	1.0	26.6	19.7	4.2
7.8	14.7	28.0	14.0	13.2	2.4	1.0	25.8	19.4	4.2
8.0	14.6	27.9	13.4	13.5	2.4	1.0	25.9	19.8	4.3
8.2	14.5	27.9	12.9	14.0	2.4	1.0	24.5	19.5	4.3
8.4	14.4	27.9	12.5	14.4	2.4	1.0	25.0	19.4	4.3
8.6	14.3	27.9	12.1	14.8	2.4	1.0	25.5	19.6	4.3
8.8	14.3	27.8	11.7	15.2	2.4	1.0	25.5	19.1	4.3
9.0	14.1	27.9	11.5	15.5	2.5	1.0	25.9	19.6	4.4
9.2	14.0	27.8	11.3	15.7	2.5	1.0	25.1	19.3	4.4
9.4	13.9	27.7	11.2	15.8	2.5	1.0	25.5	19.1	4.4
9.6	13.8	27.8	11.1	15.9	2.5	1.0	26.3	19.4	4.4
9.8	13.7	27.7	11.1	16.0	2.5	1.0	24.7	18.9	4.4
10.0	13.6	27.8	11.1	16.0	2.6	1.0	25.4	19.2	4.4
11.0	12.9	27.7	11.3	14.6	2.8	1.0	25.5	19.0	4.5
12.0	12.2	28.0	11.2	11.5	3.0	1.0	25.9	18.7	4.6
13.0	11.2	28.4	10.7	8.9	3.3	0.9	-	-	-
14.0	9.7	29.3	8.8	7.4	3.8	0.9	-	-	-
15.0	8.4	30.3	6.8	6.9	4.3	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +3V$ ,  $I_{DD} = 40mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	13.9	23.2	20.5	17.7	1.6	0.9	17.4	21.4	10.5
0.4	14.1	22.9	26.6	17.6	1.6	0.9	18.8	22.0	5.1
0.6	14.1	22.9	28.4	17.6	1.5	0.9	18.8	21.9	4.6
0.8	14.1	22.9	28.9	17.5	1.6	0.9	19.0	21.8	4.5
1.0	14.1	23.0	28.6	17.4	1.6	0.9	18.6	21.7	4.4
1.2	14.1	23.0	28.0	17.3	1.6	0.9	18.9	21.8	4.4
1.4	14.1	23.1	27.6	17.1	1.6	0.9	19.3	21.8	4.3
1.6	14.1	23.2	26.9	17.0	1.6	0.9	19.5	22.0	4.4
1.8	14.1	23.3	26.6	16.9	1.6	0.9	19.2	22.0	4.4
2.0	14.1	23.4	26.2	16.8	1.6	0.9	19.3	21.9	4.4
2.2	14.1	23.6	26.6	16.8	1.7	0.9	19.9	21.6	4.4
2.4	14.1	23.7	27.2	16.8	1.7	0.9	19.2	22.0	4.4
2.6	14.0	23.8	28.5	17.0	1.7	0.9	19.9	21.9	4.4
2.8	14.0	23.9	29.9	17.2	1.8	0.9	20.3	21.7	4.5
3.0	14.0	24.0	30.3	17.1	1.8	0.9	19.8	21.8	4.5
3.2	14.0	24.1	30.8	16.8	1.8	0.9	20.6	21.6	4.5
3.4	14.0	24.2	31.0	16.6	1.8	0.9	20.2	22.0	4.4
3.6	14.0	24.4	29.8	16.1	1.8	0.9	20.9	21.6	4.4
3.8	14.0	24.5	27.8	15.5	1.8	0.9	20.8	21.3	4.5
4.0	13.9	24.6	26.0	14.8	1.9	0.9	20.6	21.3	4.5
4.2	13.9	24.8	24.2	14.1	1.9	0.9	20.7	21.0	4.4
4.4	13.8	25.0	22.7	13.4	1.9	0.9	20.8	21.6	4.4
4.6	13.7	25.1	21.4	12.6	2.0	0.9	22.0	21.1	4.4
4.8	13.6	25.3	20.1	12.0	2.0	0.9	20.9	21.4	4.4
5.0	13.5	25.5	19.1	11.3	2.0	0.9	20.7	21.6	4.5
5.2	13.4	25.6	18.1	10.8	2.1	0.9	21.2	21.2	4.5
5.4	13.3	25.7	17.3	10.3	2.1	0.9	20.4	21.0	4.4
5.6	13.1	25.9	16.5	9.9	2.1	0.9	21.4	21.0	4.4
5.8	13.0	26.1	15.9	9.6	2.2	0.9	20.6	21.2	4.5
6.0	12.9	26.2	15.5	9.4	2.2	0.9	22.4	20.7	4.4
6.2	12.9	26.2	15.1	9.2	2.2	0.9	21.0	20.9	4.4
6.4	12.8	26.3	14.9	9.1	2.2	0.9	20.7	20.8	4.3
6.6	12.8	26.2	14.8	9.1	2.2	0.9	21.9	20.8	4.4
6.8	12.7	26.3	14.7	9.1	2.3	0.9	21.3	21.0	4.3
7.0	12.7	26.3	14.6	9.2	2.3	0.9	21.7	21.1	4.4
7.2	12.7	26.2	14.5	9.4	2.3	0.9	21.6	21.0	4.4
7.4	12.6	26.2	14.3	9.5	2.3	0.9	21.9	20.7	4.3
7.6	12.6	26.2	14.1	9.8	2.3	0.9	23.5	20.7	4.4
7.8	12.6	26.2	13.8	10.1	2.3	0.9	23.0	20.5	4.4
8.0	12.5	26.2	13.3	10.4	2.4	0.9	22.6	21.0	4.4
8.2	12.4	26.2	12.9	10.7	2.4	0.9	22.0	20.6	4.4
8.4	12.3	26.2	12.6	11.1	2.4	0.9	22.2	20.8	4.4
8.6	12.3	26.2	12.2	11.4	2.4	1.0	21.6	20.6	4.5
8.8	12.3	26.1	11.8	11.6	2.4	1.0	23.1	20.4	4.5
9.0	12.2	26.1	11.6	11.9	2.4	1.0	24.4	20.4	4.5
9.2	12.1	26.1	11.5	12.1	2.4	1.0	23.2	20.4	4.5
9.4	12.0	26.0	11.3	12.4	2.5	1.0	23.3	20.3	4.5
9.6	11.9	26.0	11.2	12.6	2.5	1.0	22.7	20.1	4.5
9.8	11.8	25.9	11.3	12.8	2.5	1.0	21.8	20.2	4.5
10.0	11.7	26.0	11.2	13.0	2.6	1.0	22.4	19.7	4.5
11.0	11.2	25.9	11.5	13.1	2.7	1.0	21.2	19.3	4.7
12.0	10.6	26.2	11.8	11.1	2.9	1.0	21.2	19.2	4.8
13.0	9.6	26.7	11.5	8.4	3.2	0.9	-	-	-
14.0	8.1	27.6	9.4	6.8	3.6	0.9	-	-	-
15.0	6.7	28.6	7.0	6.1	4.1	0.9	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +2V$ ,  $I_{DD} = 28mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	8.5	21.5	17.0	6.2	1.8	0.7	10.1	21.6	13.1
0.4	9.0	21.1	15.2	6.4	1.7	0.7	11.1	22.2	6.0
0.6	9.1	21.0	14.6	6.7	1.7	0.7	11.3	22.1	5.3
0.8	9.2	21.0	14.2	6.8	1.7	0.7	11.3	22.0	5.1
1.0	9.3	20.9	14.2	7.0	1.7	0.7	11.2	21.7	5.1
1.2	9.3	21.0	14.2	7.2	1.7	0.7	11.3	21.8	5.1
1.4	9.3	21.0	14.2	7.4	1.8	0.7	11.7	21.9	5.0
1.6	9.4	21.0	14.3	7.6	1.8	0.7	11.8	22.1	5.0
1.8	9.4	21.1	14.3	7.7	1.8	0.8	11.5	22.3	5.0
2.0	9.4	21.2	14.3	7.8	1.8	0.8	11.5	22.1	5.0
2.2	9.4	21.2	14.6	7.8	1.8	0.8	12.1	21.6	5.1
2.4	9.4	21.3	14.8	7.9	1.8	0.8	11.5	22.2	5.1
2.6	9.4	21.4	15.2	8.0	1.9	0.8	11.9	22.0	5.1
2.8	9.3	21.5	15.7	8.0	1.9	0.8	12.1	22.0	5.1
3.0	9.3	21.6	15.8	7.9	1.9	0.8	11.9	22.0	5.1
3.2	9.3	21.6	15.9	7.8	1.9	0.8	12.5	22.0	5.1
3.4	9.3	21.7	16.3	7.8	1.9	0.8	12.0	22.4	5.1
3.6	9.3	21.8	16.5	7.8	2.0	0.8	12.5	21.8	5.1
3.8	9.3	21.9	16.7	7.7	2.0	0.8	12.3	21.6	5.1
4.0	9.2	22.0	16.8	7.6	2.0	0.8	12.2	21.5	5.1
4.2	9.1	22.2	16.7	7.5	2.1	0.8	12.0	21.3	5.1
4.4	9.0	22.3	16.4	7.3	2.1	0.8	12.1	21.9	5.0
4.6	8.8	22.5	16.0	7.1	2.1	0.8	12.8	21.5	5.0
4.8	8.6	22.7	15.3	6.9	2.2	0.8	12.0	21.8	5.1
5.0	8.3	23.0	14.6	6.8	2.3	0.8	11.8	22.1	5.1
5.2	8.0	23.4	13.9	6.8	2.5	0.8	11.9	21.5	5.1
5.4	7.8	23.5	13.4	6.7	2.6	0.8	11.5	21.4	5.1
5.6	7.8	23.4	13.0	6.3	2.5	0.8	12.1	21.3	5.1
5.8	7.8	23.4	12.7	5.9	2.4	0.7	11.6	21.5	5.1
6.0	7.7	23.5	12.4	5.6	2.4	0.7	12.4	21.0	5.1
6.2	7.6	23.6	12.3	5.4	2.4	0.7	11.7	21.2	5.0
6.4	7.5	23.7	12.2	5.3	2.4	0.7	11.5	21.2	5.0
6.6	7.5	23.7	12.2	5.3	2.5	0.7	11.8	21.1	5.0
6.8	7.4	23.7	12.2	5.3	2.5	0.7	11.5	21.5	5.0
7.0	7.3	23.7	12.3	5.3	2.5	0.7	11.7	21.6	5.0
7.2	7.3	23.6	12.4	5.4	2.5	0.7	11.6	21.5	5.0
7.4	7.3	23.6	12.5	5.6	2.6	0.7	11.5	21.2	5.0
7.6	7.3	23.5	12.5	5.8	2.6	0.7	12.1	21.2	5.0
7.8	7.2	23.4	12.5	5.9	2.6	0.7	11.9	21.2	5.1
8.0	7.2	23.4	12.6	6.1	2.6	0.8	11.7	21.5	5.1
8.2	7.2	23.3	12.6	6.3	2.6	0.8	11.4	21.5	5.1
8.4	7.2	23.2	12.4	6.6	2.6	0.8	11.6	21.4	5.1
8.6	7.2	23.2	12.2	6.8	2.7	0.8	11.5	21.4	5.1
8.8	7.1	23.1	11.9	6.8	2.7	0.8	11.9	21.2	5.1
9.0	7.1	23.1	11.6	7.0	2.7	0.8	12.3	21.0	5.2
9.2	7.0	23.0	11.4	7.0	2.7	0.8	11.8	21.3	5.1
9.4	6.9	23.0	11.2	7.1	2.7	0.8	12.2	20.9	5.2
9.6	6.8	23.0	11.0	7.1	2.7	0.8	12.1	20.8	5.3
9.8	6.8	22.9	10.9	7.2	2.7	0.9	12.1	21.0	5.2
10.0	6.7	22.9	10.9	7.3	2.7	0.9	12.6	20.3	5.2
11.0	6.4	22.7	11.6	8.1	3.0	0.9	11.8	21.2	5.4
12.0	6.0	22.7	12.8	8.1	3.1	0.9	12.0	20.9	5.5
13.0	5.2	22.9	13.7	6.5	3.2	0.8	-	-	-
14.0	3.6	23.9	11.7	4.9	3.6	0.7	-	-	-
15.0	2.2	24.8	8.4	4.1	3.9	0.7	-	-	-



## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +1V$ ,  $I_{DD} = 12mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	8.3	19.2	9.8	6.4	1.5	0.7	12.4	21.1	16.6
0.4	8.3	19.2	10.0	6.4	1.5	0.7	12.8	21.9	6.7
0.6	8.3	19.2	10.1	6.5	1.5	0.7	12.7	21.9	5.5
0.8	8.2	19.3	10.1	6.5	1.6	0.7	12.7	21.8	5.4
1.0	8.2	19.4	10.1	6.6	1.6	0.7	12.6	21.3	5.4
1.2	8.1	19.5	10.0	6.6	1.6	0.7	12.8	21.7	5.3
1.4	8.0	19.6	10.1	6.6	1.6	0.7	12.9	21.6	5.3
1.6	8.0	19.7	10.1	6.6	1.7	0.7	13.0	22.0	5.4
1.8	7.9	19.8	10.2	6.7	1.7	0.7	12.8	22.2	5.3
2.0	7.8	19.9	10.2	6.7	1.7	0.7	13.0	21.9	5.4
2.2	7.7	20.0	10.4	6.7	1.8	0.7	13.5	21.4	5.3
2.4	7.7	20.1	10.6	6.8	1.8	0.7	13.2	22.0	5.4
2.6	7.6	20.1	10.9	6.9	1.8	0.7	13.5	21.8	5.4
2.8	7.6	20.2	11.2	7.0	1.9	0.8	13.6	21.8	5.4
3.0	7.5	20.3	11.4	7.0	1.9	0.8	13.6	21.9	5.4
3.2	7.5	20.3	11.6	7.0	1.9	0.8	14.1	22.0	5.4
3.4	7.5	20.4	11.8	7.1	1.9	0.8	13.9	22.3	5.4
3.6	7.4	20.4	12.0	7.2	2.0	0.8	14.4	21.9	5.4
3.8	7.4	20.5	12.2	7.2	2.0	0.8	14.3	21.7	5.4
4.0	7.2	20.7	12.3	7.1	2.1	0.8	14.2	21.5	5.3
4.2	7.1	20.8	12.2	7.0	2.1	0.8	14.2	21.4	5.4
4.4	6.9	21.0	12.0	6.8	2.2	0.8	14.6	21.9	5.3
4.6	6.6	21.3	11.8	6.6	2.3	0.8	15.0	21.6	5.3
4.8	6.4	21.5	11.5	6.3	2.3	0.8	14.9	21.8	5.4
5.0	6.1	21.8	11.2	6.0	2.4	0.7	14.5	22.2	5.4
5.2	5.9	22.0	10.9	5.8	2.5	0.7	15.3	21.4	5.3
5.4	5.6	22.3	10.7	5.5	2.6	0.7	15.4	21.2	5.4
5.6	5.4	22.4	10.4	5.3	2.6	0.7	16.0	21.1	5.4
5.8	5.2	22.6	10.3	5.2	2.7	0.7	16.3	21.4	5.5
6.0	5.0	22.8	10.2	5.1	2.8	0.7	16.8	21.1	5.5
6.2	4.9	23.0	10.2	5.0	2.9	0.7	17.0	21.2	5.4
6.4	4.7	23.1	10.3	5.0	3.0	0.7	17.3	21.1	5.4
6.6	4.6	23.2	10.4	5.0	3.1	0.7	17.7	20.9	5.6
6.8	4.5	23.3	10.6	5.0	3.2	0.7	18.4	21.3	5.4
7.0	4.4	23.4	10.8	5.1	3.3	0.7	19.4	21.4	5.6
7.2	4.3	23.5	11.1	5.3	3.4	0.7	20.6	21.4	5.6
7.4	4.2	23.5	11.3	5.4	3.5	0.7	20.8	21.0	5.6
7.6	4.1	23.6	11.4	5.6	3.6	0.7	19.8	21.0	5.5
7.8	4.0	23.7	11.5	5.7	3.7	0.8	21.3	21.0	5.7
8.0	3.9	23.8	11.5	5.9	3.8	0.8	22.2	21.2	5.7
8.2	3.8	23.9	11.5	6.0	4.0	0.8	20.4	21.5	5.8
8.4	3.7	23.9	11.3	6.1	4.0	0.8	20.7	21.2	5.8
8.6	3.6	24.0	11.2	6.2	4.2	0.8	19.8	21.3	5.7
8.8	3.5	24.0	11.1	6.1	4.2	0.8	21.0	21.2	5.8
9.0	3.4	24.1	11.0	6.2	4.3	0.8	21.4	21.0	5.9
9.2	3.4	24.1	10.9	6.2	4.3	0.8	18.5	21.6	5.9
9.4	3.2	24.1	11.0	6.3	4.4	0.8	18.5	20.9	6.0
9.6	3.2	24.1	11.0	6.4	4.5	0.8	18.2	21.0	6.1
9.8	3.1	24.1	11.1	6.6	4.6	0.8	17.5	21.1	6.0
10.0	3.0	24.2	11.2	6.7	4.8	0.8	18.5	20.5	6.1
11.0	2.3	24.4	12.3	7.8	5.6	0.9	14.0	21.5	6.4
12.0	1.6	24.5	13.2	7.4	6.1	0.9	14.6	20.8	6.7
13.0	0.6	24.5	14.1	6.2	6.4	0.8	-	-	-
14.0	-1.3	25.5	11.7	5.2	8.0	0.8	-	-	-
15.0	-3.1	26.1	8.7	4.3	8.8	0.7	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +0.8V$ ,  $I_{DD} = 4mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	6.3	18.6	8.0	5.3	1.6	0.7	10.4	21.0	16.5
0.4	6.3	18.6	8.2	5.3	1.6	0.7	10.5	21.9	6.8
0.6	6.3	18.6	8.2	5.3	1.6	0.7	10.5	21.9	5.8
0.8	6.2	18.7	8.2	5.4	1.6	0.7	10.6	21.7	5.6
1.0	6.1	18.8	8.3	5.4	1.7	0.7	10.6	21.3	5.6
1.2	6.0	18.9	8.3	5.4	1.7	0.7	10.7	21.6	5.6
1.4	5.9	19.1	8.4	5.5	1.7	0.7	10.8	21.7	5.6
1.6	5.8	19.2	8.4	5.5	1.8	0.7	10.8	22.0	5.6
1.8	5.6	19.3	8.5	5.5	1.8	0.7	11.0	22.3	5.6
2.0	5.5	19.4	8.6	5.5	1.9	0.7	11.2	22.2	5.7
2.2	5.4	19.5	8.8	5.6	1.9	0.7	11.2	21.3	5.7
2.4	5.3	19.6	9.0	5.6	2.0	0.7	11.1	22.2	5.8
2.6	5.2	19.7	9.3	5.7	2.0	0.7	11.1	21.8	5.8
2.8	5.1	19.8	9.6	5.7	2.1	0.7	11.0	21.9	5.8
3.0	5.0	19.9	9.8	5.7	2.1	0.7	11.0	21.9	5.8
3.2	4.9	19.9	10.0	5.8	2.2	0.7	11.0	22.0	5.8
3.4	4.8	20.0	10.2	5.8	2.2	0.7	10.8	22.5	5.8
3.6	4.7	20.1	10.4	5.8	2.3	0.7	9.6	21.9	5.8
3.8	4.6	20.3	10.5	5.8	2.4	0.7	10.4	21.8	5.9
4.0	4.4	20.4	10.6	5.8	2.5	0.7	10.4	21.4	5.9
4.2	4.1	20.6	10.5	5.7	2.6	0.7	10.2	21.3	5.9
4.4	3.9	20.9	10.4	5.5	2.7	0.7	10.1	21.9	5.9
4.6	3.5	21.2	10.3	5.3	2.8	0.7	10.2	21.5	5.9
4.8	3.2	21.5	10.1	5.2	2.9	0.7	9.7	21.9	6.0
5.0	2.8	21.8	9.9	4.9	3.1	0.7	9.8	22.3	6.1
5.2	2.5	22.2	9.8	4.8	3.3	0.7	9.6	21.6	6.2
5.4	2.2	22.4	9.6	4.6	3.4	0.7	9.5	21.2	6.2
5.6	1.9	22.7	9.5	4.4	3.6	0.7	9.5	21.0	6.3
5.8	1.6	22.9	9.5	4.3	3.7	0.7	9.3	21.2	6.4
6.0	1.4	23.2	9.5	4.2	3.9	0.7	9.4	21.0	6.5
6.2	1.1	23.4	9.6	4.2	4.1	0.7	9.2	21.1	6.5
6.4	0.9	23.5	9.7	4.2	4.2	0.7	9.1	20.9	6.5
6.6	0.8	23.7	9.9	4.2	4.4	0.7	9.0	20.7	6.7
6.8	0.6	23.8	10.2	4.3	4.6	0.7	8.8	21.2	6.6
7.0	0.5	23.9	10.4	4.4	4.9	0.7	8.9	21.2	6.8
7.2	0.3	24.1	10.7	4.5	5.1	0.7	8.6	21.4	6.9
7.4	0.2	24.1	10.9	4.7	5.4	0.7	8.5	20.8	6.8
7.6	0.1	24.3	11.0	4.8	5.6	0.7	8.9	20.9	6.8
7.8	-0.1	24.4	11.1	5.0	5.9	0.7	8.6	20.9	7.1
8.0	-0.2	24.5	11.2	5.1	6.1	0.7	8.5	21.0	7.1
8.2	-0.4	24.6	11.1	5.2	6.4	0.7	8.2	21.3	7.2
8.4	-0.5	24.7	11.1	5.3	6.6	0.7	8.3	21.0	7.4
8.6	-0.7	24.8	11.0	5.4	6.9	0.8	8.2	21.3	7.2
8.8	-0.8	24.8	10.9	5.4	7.0	0.8	8.3	21.2	7.3
9.0	-0.9	24.9	10.8	5.4	7.1	0.8	8.5	21.0	7.5
9.2	-1.0	24.9	10.8	5.5	7.3	0.8	8.1	21.6	7.6
9.4	-1.2	24.9	10.8	5.6	7.5	0.8	8.2	20.9	7.6
9.6	-1.3	25.0	10.9	5.7	7.7	0.8	8.1	20.9	7.7
9.8	-1.4	25.0	11.0	5.8	8.0	0.8	8.1	21.2	7.8
10.0	-1.5	25.0	11.2	6.0	8.3	0.8	8.3	20.6	7.8
11.0	-2.3	25.2	12.3	7.0	10.1	0.8	7.7	21.1	8.3
12.0	-3.2	25.1	13.3	6.8	10.9	0.8	8.0	20.1	8.8
13.0	-4.3	25.0	13.9	5.7	11.5	0.8	-	-	-
14.0	-6.4	25.8	11.3	4.9	14.4	0.7	-	-	-
15.0	-8.2	26.3	8.6	4.0	15.6	0.7	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +5V$ ,  $I_{DD} = 69mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	15.8	27.1	15.4	18.8	1.9	0.9	28.3	21.2	11.5
0.4	16.7	26.0	18.5	24.4	1.6	0.9	28.9	20.9	4.1
0.6	16.9	25.7	19.3	26.1	1.6	0.9	28.2	21.3	3.6
0.8	17.0	25.7	19.7	24.1	1.6	0.9	28.6	21.3	3.5
1.0	17.0	25.7	19.6	22.2	1.6	0.9	29.2	20.9	3.5
1.2	17.0	25.7	19.7	20.6	1.6	0.9	29.8	21.5	3.4
1.4	17.1	25.8	19.7	20.1	1.6	0.9	30.5	21.1	3.4
1.6	17.1	25.8	19.8	19.3	1.6	0.9	29.7	21.6	3.4
1.8	17.1	26.0	20.0	19.3	1.6	0.9	28.8	21.2	3.4
2.0	17.1	26.1	20.2	19.1	1.6	0.9	30.2	21.4	3.4
2.2	17.1	26.2	20.0	19.1	1.6	0.9	31.5	21.2	3.4
2.4	17.1	26.3	19.7	18.9	1.6	0.9	30.1	21.2	3.4
2.6	17.1	26.5	19.3	18.6	1.7	0.9	32.0	21.4	3.4
2.8	17.0	26.7	19.0	18.4	1.7	0.9	30.5	20.9	3.5
3.0	17.0	26.8	19.2	18.5	1.7	0.9	33.4	21.2	3.4
3.2	17.0	26.9	19.1	18.5	1.8	0.9	31.1	20.9	3.5
3.4	17.1	27.0	18.5	18.1	1.8	0.9	37.2	20.9	3.4
3.6	17.1	27.2	18.2	17.9	1.8	0.9	33.5	20.8	3.4
3.8	17.1	27.3	18.0	17.5	1.8	0.9	31.6	20.3	3.4
4.0	17.1	27.5	17.8	17.2	1.8	0.9	31.4	20.7	3.4
4.2	17.0	27.6	17.7	16.8	1.9	0.9	31.9	20.2	3.4
4.4	17.0	27.8	17.7	16.4	1.9	0.9	30.9	20.6	3.4
4.6	17.0	28.0	17.8	16.0	1.9	0.9	30.8	20.3	3.4
4.8	16.9	28.1	18.0	15.5	2.0	0.9	30.3	20.4	3.5
5.0	16.8	28.4	18.2	15.0	2.0	0.9	29.7	20.7	3.5
5.2	16.7	28.7	18.4	14.5	2.1	0.9	29.9	20.3	3.5
5.4	16.6	28.8	18.0	14.2	2.2	0.9	28.5	20.3	3.4
5.6	16.6	28.8	17.7	14.0	2.1	0.9	29.2	20.2	3.4
5.8	16.6	28.9	17.8	13.7	2.2	0.9	28.7	20.5	3.4
6.0	16.6	28.9	18.0	13.3	2.2	0.9	28.8	20.0	3.4
6.2	16.6	29.0	17.9	13.1	2.2	0.9	27.6	20.2	3.4
6.4	16.6	29.0	17.7	12.9	2.2	0.9	27.4	20.2	3.3
6.6	16.6	29.1	17.5	13.0	2.2	0.9	26.8	20.2	3.3
6.8	16.5	29.1	17.1	13.0	2.2	0.9	27.0	20.3	3.3
7.0	16.5	29.1	16.6	13.2	2.2	0.9	27.3	20.2	3.3
7.2	16.4	29.2	16.1	13.6	2.3	0.9	27.0	20.4	3.3
7.4	16.4	29.1	15.6	14.0	2.3	1.0	26.9	19.9	3.4
7.6	16.3	29.1	14.9	14.4	2.3	1.0	27.4	20.0	3.4
7.8	16.3	29.1	14.3	14.9	2.3	1.0	26.3	19.7	3.4
8.0	16.2	29.1	13.7	15.3	2.3	1.0	27.5	20.1	3.4
8.2	16.1	29.1	13.2	15.6	2.3	1.0	26.0	19.7	3.4
8.4	16.0	29.1	12.6	15.8	2.3	1.0	26.9	19.7	3.5
8.6	15.9	29.0	12.1	15.9	2.3	1.0	26.9	20.0	3.5
8.8	15.9	29.0	11.6	15.9	2.3	1.0	27.5	19.4	3.5
9.0	15.7	29.0	11.3	15.8	2.3	1.0	27.3	19.8	3.5
9.2	15.6	28.9	11.0	15.5	2.3	1.0	26.5	19.4	3.5
9.4	15.5	28.9	10.8	15.4	2.3	1.0	26.7	19.3	3.5
9.6	15.4	28.9	10.7	15.2	2.4	1.0	26.3	19.5	3.5
9.8	15.2	28.8	10.7	15.0	2.4	1.0	27.3	19.0	3.6
10.0	15.1	28.8	10.7	15.0	2.4	1.0	26.9	19.3	3.5
11.0	14.4	28.6	11.0	13.6	2.5	1.0	28.2	19.1	3.6
12.0	13.7	28.7	10.8	10.5	2.7	1.0	29.2	19.0	3.7
13.0	12.7	29.0	9.9	8.1	2.8	0.9	-	-	-
14.0	11.2	29.7	8.4	6.8	3.2	0.9	-	-	-
15.0	10.1	30.4	6.8	6.8	3.5	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +4V$ ,  $I_{DD} = 50mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	15.0	25.3	17.5	22.9	1.8	0.9	25.0	21.3	10.1
0.4	15.3	24.9	22.1	23.4	1.7	0.9	25.3	21.2	4.2
0.6	15.5	24.6	24.5	25.5	1.6	0.9	25.7	21.4	3.7
0.8	15.6	24.6	26.5	26.1	1.6	0.9	26.0	21.4	3.6
1.0	15.7	24.5	27.0	27.8	1.6	0.9	25.5	21.1	3.6
1.2	15.7	24.6	27.4	28.6	1.6	0.9	25.9	21.6	3.5
1.4	15.8	24.6	27.5	30.0	1.6	0.9	26.5	21.3	3.4
1.6	15.8	24.7	27.7	32.6	1.6	0.9	26.8	21.9	3.4
1.8	15.8	24.8	28.1	36.1	1.6	0.9	26.4	21.5	3.5
2.0	15.8	24.9	28.5	49.7	1.6	0.9	26.1	21.8	3.4
2.2	15.8	25.0	27.9	40.6	1.6	0.9	27.4	21.4	3.4
2.4	15.9	25.1	27.2	32.6	1.7	0.9	26.3	21.5	3.5
2.6	15.8	25.2	26.1	29.5	1.7	0.9	27.1	21.6	3.5
2.8	15.8	25.3	25.2	26.4	1.7	0.9	28.0	21.1	3.5
3.0	15.8	25.5	25.4	25.2	1.8	0.9	26.1	21.5	3.5
3.2	15.8	25.6	25.1	23.3	1.8	0.9	28.2	21.1	3.5
3.4	15.8	25.7	23.9	21.8	1.8	0.9	26.5	21.4	3.5
3.6	15.9	25.8	23.2	20.7	1.8	0.9	28.1	21.1	3.5
3.8	15.8	26.0	22.5	19.3	1.8	0.9	26.5	20.6	3.5
4.0	15.8	26.2	21.9	18.4	1.8	0.9	27.3	21.0	3.5
4.2	15.8	26.3	21.6	17.2	1.9	0.9	26.9	20.5	3.5
4.4	15.7	26.5	21.2	16.3	1.9	0.9	25.8	21.1	3.5
4.6	15.6	26.7	20.9	15.3	1.9	0.9	28.6	20.6	3.5
4.8	15.5	26.8	20.6	14.5	2.0	0.9	26.6	20.9	3.5
5.0	15.4	27.1	20.1	13.7	2.0	0.9	25.5	21.2	3.5
5.2	15.3	27.3	19.4	13.1	2.1	0.9	25.2	20.8	3.6
5.4	15.2	27.5	18.6	12.6	2.1	0.9	24.6	20.6	3.5
5.6	15.2	27.5	18.0	12.0	2.1	0.9	25.1	20.5	3.5
5.8	15.2	27.5	17.7	11.5	2.1	0.9	24.1	20.9	3.4
6.0	15.2	27.6	17.5	11.1	2.1	0.9	25.1	20.3	3.4
6.2	15.1	27.7	17.3	10.9	2.1	0.9	24.0	20.7	3.4
6.4	15.1	27.7	17.0	10.6	2.1	0.9	23.7	20.5	3.4
6.6	15.1	27.7	16.9	10.6	2.2	0.9	23.7	20.4	3.4
6.8	15.0	27.8	16.6	10.7	2.2	0.9	23.6	20.6	3.4
7.0	15.0	27.8	16.2	10.8	2.2	0.9	23.3	20.7	3.4
7.2	15.0	27.8	15.8	11.1	2.2	0.9	22.7	20.9	3.4
7.4	14.9	27.7	15.4	11.4	2.2	0.9	22.9	20.4	3.4
7.6	14.9	27.7	14.9	11.8	2.2	0.9	24.2	20.3	3.4
7.8	14.9	27.7	14.4	12.2	2.2	0.9	23.5	20.1	3.4
8.0	14.8	27.6	13.9	12.6	2.2	1.0	23.6	20.7	3.5
8.2	14.8	27.6	13.4	12.9	2.2	1.0	22.6	20.2	3.5
8.4	14.7	27.5	12.9	13.2	2.2	1.0	22.7	20.3	3.5
8.6	14.6	27.5	12.4	13.5	2.2	1.0	22.8	20.4	3.5
8.8	14.6	27.4	11.9	13.6	2.2	1.0	23.2	19.9	3.5
9.0	14.5	27.4	11.5	13.8	2.2	1.0	24.3	20.3	3.5
9.2	14.4	27.4	11.2	13.7	2.2	1.0	22.9	20.0	3.5
9.4	14.3	27.4	11.0	13.7	2.2	1.0	22.8	20.1	3.5
9.6	14.2	27.3	10.9	13.6	2.2	1.0	22.9	19.9	3.5
9.8	14.1	27.3	10.8	13.6	2.3	1.0	22.7	19.8	3.5
10.0	13.9	27.2	10.9	13.7	2.3	1.0	23.7	19.5	3.5
11.0	13.4	27.1	11.3	13.4	2.4	1.0	23.1	19.2	3.6
12.0	12.8	27.1	11.3	10.8	2.5	1.0	24.4	19.0	3.6
13.0	11.8	27.5	10.6	8.1	2.6	0.9	-	-	-
14.0	10.3	28.4	8.9	6.7	3.0	0.9	-	-	-
15.0	9.2	29.2	7.0	6.5	3.4	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +3V$ ,  $I_{DD} = 38mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	12.4	23.6	23.3	11.0	1.8	0.9	13.6	21.5	10.5
0.4	12.8	23.1	29.0	11.4	1.7	0.8	14.0	22.1	4.6
0.6	13.0	22.9	25.9	12.0	1.7	0.8	14.9	22.0	4.0
0.8	13.1	22.8	24.2	12.3	1.6	0.8	14.8	21.9	4.0
1.0	13.2	22.8	23.9	12.7	1.6	0.8	14.9	21.8	3.9
1.2	13.3	22.8	23.7	13.2	1.6	0.8	15.1	21.9	3.8
1.4	13.3	22.8	23.5	13.4	1.6	0.8	15.7	21.9	3.8
1.6	13.3	22.9	23.7	13.9	1.7	0.9	16.0	22.3	3.8
1.8	13.3	23.0	23.7	14.0	1.7	0.9	15.7	22.3	3.8
2.0	13.4	23.1	23.7	14.2	1.7	0.9	15.9	22.2	3.8
2.2	13.4	23.1	24.3	14.2	1.7	0.9	16.1	21.7	3.8
2.4	13.4	23.2	25.1	14.3	1.7	0.9	15.8	22.2	3.7
2.6	13.4	23.3	26.4	14.3	1.7	0.9	16.2	22.1	3.8
2.8	13.3	23.5	27.5	14.2	1.8	0.9	16.6	21.7	3.9
3.0	13.3	23.6	27.5	14.0	1.8	0.9	16.2	22.1	3.8
3.2	13.3	23.7	28.0	13.6	1.8	0.9	16.9	21.6	3.9
3.4	13.4	23.8	29.4	13.5	1.8	0.9	16.1	22.2	3.8
3.6	13.4	23.9	29.5	13.2	1.8	0.9	16.8	21.6	3.8
3.8	13.3	24.0	28.6	12.8	1.8	0.9	16.4	21.1	3.8
4.0	13.3	24.2	27.3	12.5	1.9	0.9	16.6	21.3	3.8
4.2	13.2	24.3	25.8	12.0	1.9	0.9	16.3	20.9	3.8
4.4	13.1	24.5	24.0	11.5	1.9	0.9	16.4	21.6	3.8
4.6	13.0	24.7	22.5	11.0	2.0	0.9	17.4	20.9	3.8
4.8	12.9	24.9	20.9	10.5	2.0	0.9	16.4	21.4	3.8
5.0	12.7	25.2	19.4	10.0	2.1	0.9	15.9	21.7	3.8
5.2	12.5	25.5	18.1	9.6	2.2	0.9	16.0	21.2	3.8
5.4	12.3	25.6	17.0	9.4	2.2	0.9	15.3	21.0	3.7
5.6	12.3	25.6	16.2	9.0	2.2	0.9	16.5	20.8	3.8
5.8	12.3	25.6	15.9	8.5	2.2	0.8	15.9	21.3	3.8
6.0	12.3	25.7	15.5	8.1	2.2	0.8	17.4	20.5	3.7
6.2	12.2	25.7	15.3	7.9	2.2	0.8	16.3	21.0	3.7
6.4	12.2	25.8	15.1	7.7	2.2	0.8	16.0	20.8	3.7
6.6	12.2	25.8	15.0	7.7	2.2	0.8	16.5	20.7	3.7
6.8	12.1	25.8	14.9	7.7	2.2	0.8	16.1	21.0	3.7
7.0	12.1	25.8	14.7	7.7	2.2	0.8	16.3	21.2	3.7
7.2	12.1	25.7	14.6	7.9	2.2	0.8	16.2	21.2	3.7
7.4	12.1	25.6	14.5	8.1	2.2	0.8	16.3	20.8	3.7
7.6	12.0	25.5	14.3	8.4	2.2	0.9	17.6	20.7	3.7
7.8	12.0	25.5	14.0	8.7	2.2	0.9	17.2	20.5	3.7
8.0	12.0	25.4	13.8	9.0	2.2	0.9	16.8	21.3	3.7
8.2	12.0	25.4	13.5	9.3	2.2	0.9	16.4	20.7	3.7
8.4	12.0	25.2	13.1	9.6	2.2	0.9	16.8	21.0	3.8
8.6	11.9	25.2	12.7	9.9	2.2	0.9	16.5	20.9	3.7
8.8	11.9	25.2	12.2	10.0	2.2	0.9	17.6	20.6	3.8
9.0	11.8	25.1	11.8	10.2	2.2	0.9	18.7	20.7	3.8
9.2	11.7	25.0	11.5	10.3	2.2	0.9	17.6	20.7	3.7
9.4	11.7	25.0	11.3	10.4	2.2	1.0	18.4	20.7	3.7
9.6	11.6	25.0	11.1	10.3	2.2	1.0	18.0	20.5	3.8
9.8	11.5	25.0	11.1	10.4	2.2	1.0	17.6	20.6	3.8
10.0	11.4	24.9	11.1	10.5	2.2	1.0	17.5	20.0	3.8
11.0	11.0	24.7	11.6	11.3	2.3	1.0	16.2	19.5	3.8
12.0	10.6	24.8	12.2	10.2	2.4	1.0	16.5	19.4	3.8
13.0	9.7	25.1	12.0	7.7	2.5	0.9	-	-	-
14.0	8.3	26.0	9.9	6.1	2.9	0.9	-	-	-
15.0	7.0	27.0	7.4	5.5	3.2	0.9	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

- Input Return Loss = -S11 (dB)
- Gain(Power Gain) = S21 (dB)
- Reverse Isolation = -S12 (dB)
- Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +2V$ ,  $I_{DD} = 28mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	11.0	21.2	15.8	9.6	1.6	0.8	8.5	21.8	14.5
0.4	11.2	21.0	15.8	9.6	1.6	0.8	8.9	22.4	5.8
0.6	11.2	21.0	15.6	9.8	1.6	0.8	9.1	22.3	5.1
0.8	11.2	21.1	15.5	9.8	1.6	0.8	9.1	22.2	4.9
1.0	11.1	21.1	15.4	9.8	1.6	0.8	9.0	21.9	4.8
1.2	11.1	21.2	15.2	9.8	1.6	0.8	9.3	22.0	4.7
1.4	11.1	21.3	15.2	9.8	1.7	0.8	9.6	22.1	4.7
1.6	11.0	21.4	15.1	9.9	1.7	0.8	9.7	22.4	4.7
1.8	10.9	21.6	15.1	9.8	1.7	0.8	9.6	22.5	4.7
2.0	10.9	21.7	15.1	9.8	1.7	0.8	9.6	22.4	4.7
2.2	10.9	21.8	15.2	9.8	1.8	0.8	10.1	21.8	4.7
2.4	10.8	21.9	15.4	9.8	1.8	0.8	9.7	22.5	4.7
2.6	10.8	22.0	15.7	9.8	1.8	0.8	10.0	22.3	4.7
2.8	10.7	22.1	16.0	9.9	1.9	0.8	10.2	22.3	4.8
3.0	10.8	22.1	16.3	9.9	1.9	0.8	10.1	22.3	4.7
3.2	10.7	22.2	16.6	10.0	1.9	0.8	10.5	22.2	4.7
3.4	10.8	22.3	17.1	10.1	1.9	0.8	10.0	22.7	4.7
3.6	10.7	22.4	17.4	10.2	2.0	0.8	10.5	22.0	4.7
3.8	10.7	22.5	17.6	10.2	2.0	0.8	10.3	21.8	4.7
4.0	10.6	22.7	17.5	10.0	2.0	0.8	10.3	21.6	4.6
4.2	10.4	22.8	17.1	9.8	2.1	0.8	10.1	21.4	4.6
4.4	10.3	23.0	16.5	9.4	2.1	0.8	10.2	22.2	4.6
4.6	10.1	23.3	15.8	9.0	2.2	0.8	10.7	21.5	4.6
4.8	10.0	23.5	15.1	8.6	2.2	0.8	10.0	22.0	4.6
5.0	9.8	23.7	14.5	8.1	2.3	0.8	9.8	22.4	4.7
5.2	9.6	23.9	13.9	7.7	2.3	0.8	9.8	21.8	4.6
5.4	9.4	24.1	13.4	7.4	2.4	0.8	9.6	21.6	4.6
5.6	9.3	24.2	13.0	7.1	2.4	0.8	10.1	21.5	4.6
5.8	9.1	24.3	12.7	6.9	2.5	0.8	9.8	21.8	4.6
6.0	9.0	24.5	12.5	6.7	2.5	0.8	10.4	21.2	4.6
6.2	8.9	24.6	12.4	6.7	2.6	0.8	9.9	21.5	4.6
6.4	8.8	24.7	12.3	6.6	2.6	0.8	9.7	21.5	4.5
6.6	8.7	24.7	12.4	6.6	2.7	0.8	9.9	21.3	4.5
6.8	8.6	24.8	12.4	6.7	2.7	0.8	9.6	21.8	4.5
7.0	8.5	24.8	12.4	6.9	2.8	0.8	9.8	21.9	4.5
7.2	8.5	24.8	12.5	7.1	2.8	0.8	9.6	21.8	4.6
7.4	8.4	24.8	12.6	7.3	2.9	0.8	9.6	21.5	4.5
7.6	8.4	24.8	12.6	7.6	2.9	0.8	10.1	21.4	4.5
7.8	8.3	24.9	12.5	7.9	3.0	0.9	9.9	21.3	4.6
8.0	8.2	24.9	12.5	8.2	3.1	0.9	9.8	21.9	4.6
8.2	8.1	24.9	12.3	8.4	3.1	0.9	9.6	21.6	4.6
8.4	8.0	24.9	12.0	8.6	3.2	0.9	9.7	21.9	4.6
8.6	8.0	25.0	11.7	8.7	3.2	0.9	9.7	21.7	4.6
8.8	7.9	24.9	11.5	8.7	3.2	0.9	10.0	21.5	4.6
9.0	7.9	24.9	11.3	8.7	3.2	0.9	10.2	21.3	4.5
9.2	7.8	24.8	11.2	8.7	3.2	0.9	9.8	21.7	4.5
9.4	7.7	24.8	11.2	8.8	3.2	0.9	10.1	21.3	4.6
9.6	7.7	24.8	11.2	8.9	3.3	0.9	10.0	21.3	4.6
9.8	7.6	24.8	11.3	9.1	3.3	0.9	10.0	21.5	4.6
10.0	7.5	24.9	11.4	9.4	3.4	0.9	10.2	20.6	4.6
11.0	6.8	25.1	12.0	10.9	4.0	1.0	9.7	21.9	4.7
12.0	6.2	25.2	12.2	9.7	4.1	0.9	9.9	21.3	4.7
13.0	5.2	25.5	12.7	7.6	4.5	0.9	-	-	-
14.0	3.5	26.5	10.5	6.3	5.5	0.8	-	-	-
15.0	2.0	27.4	7.7	5.3	6.0	0.8	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +1V$ ,  $I_{DD} = 10mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	7.8	19.9	10.6	5.7	1.6	0.7	12.0	21.4	18.2
0.4	7.9	19.8	10.2	5.7	1.6	0.7	12.2	22.1	6.2
0.6	8.0	19.7	10.0	5.9	1.6	0.7	12.0	22.1	5.1
0.8	8.0	19.7	9.9	6.0	1.6	0.7	12.2	21.9	4.8
1.0	8.1	19.6	9.9	6.2	1.6	0.7	12.0	21.5	4.6
1.2	8.1	19.7	10.0	6.4	1.6	0.7	12.3	21.9	4.6
1.4	8.1	19.7	10.1	6.5	1.6	0.7	12.4	21.8	4.6
1.6	8.1	19.7	10.2	6.7	1.7	0.7	12.5	22.2	4.6
1.8	8.0	19.8	10.3	6.7	1.7	0.7	12.4	22.4	4.6
2.0	8.0	19.8	10.3	6.9	1.7	0.7	12.7	22.1	4.6
2.2	8.0	19.8	10.5	6.9	1.7	0.7	13.1	21.6	4.6
2.4	8.0	19.9	10.8	7.0	1.7	0.7	12.8	22.2	4.5
2.6	7.9	19.9	11.2	7.1	1.8	0.7	13.1	22.1	4.6
2.8	7.8	20.0	11.6	7.2	1.8	0.8	13.1	22.0	4.6
3.0	7.8	20.1	11.7	7.1	1.8	0.8	13.3	22.1	4.6
3.2	7.8	20.2	11.8	7.1	1.9	0.8	13.6	22.2	4.6
3.4	7.8	20.1	12.0	7.1	1.9	0.8	13.4	22.6	4.5
3.6	7.7	20.2	12.1	7.1	1.9	0.8	13.9	22.2	4.5
3.8	7.6	20.3	12.2	7.0	1.9	0.8	13.9	21.9	4.5
4.0	7.5	20.5	12.3	7.0	2.0	0.8	13.7	21.7	4.5
4.2	7.4	20.6	12.2	6.8	2.0	0.8	13.8	21.6	4.5
4.4	7.2	20.8	12.1	6.7	2.1	0.8	14.2	22.2	4.4
4.6	7.0	21.0	11.8	6.5	2.1	0.8	14.5	21.9	4.4
4.8	6.7	21.3	11.5	6.4	2.2	0.8	14.3	22.2	4.5
5.0	6.3	21.7	11.1	6.3	2.4	0.8	14.5	22.6	4.5
5.2	5.9	22.0	10.7	6.3	2.6	0.8	14.6	21.8	4.5
5.4	5.7	22.2	10.5	6.3	2.7	0.8	14.6	21.6	4.5
5.6	5.6	22.2	10.3	5.9	2.6	0.8	15.4	21.6	4.5
5.8	5.6	22.3	10.2	5.5	2.6	0.7	15.3	21.9	4.5
6.0	5.4	22.4	10.1	5.2	2.6	0.7	16.0	21.5	4.5
6.2	5.3	22.6	10.1	5.0	2.6	0.7	15.8	21.6	4.5
6.4	5.1	22.7	10.1	4.9	2.7	0.7	15.6	21.5	4.5
6.6	5.0	22.8	10.2	4.9	2.8	0.7	16.1	21.3	4.5
6.8	4.9	22.9	10.4	4.8	2.8	0.7	16.0	21.9	4.5
7.0	4.8	23.1	10.5	4.9	2.9	0.7	16.6	22.0	4.6
7.2	4.7	23.1	10.7	4.9	3.0	0.7	16.7	22.0	4.6
7.4	4.6	23.2	10.9	5.0	3.1	0.7	17.0	21.5	4.5
7.6	4.5	23.2	11.0	5.2	3.2	0.7	17.4	21.5	4.5
7.8	4.5	23.3	11.1	5.3	3.2	0.7	17.2	21.6	4.6
8.0	4.4	23.3	11.2	5.5	3.3	0.7	17.1	21.9	4.6
8.2	4.3	23.3	11.2	5.6	3.4	0.7	17.1	22.1	4.6
8.4	4.3	23.4	11.1	5.8	3.5	0.8	17.4	21.9	4.7
8.6	4.2	23.5	11.0	5.9	3.6	0.8	16.9	22.0	4.7
8.8	4.1	23.5	10.9	6.0	3.6	0.8	17.3	21.8	4.8
9.0	4.0	23.6	10.7	6.1	3.7	0.8	18.0	21.6	4.8
9.2	3.9	23.6	10.5	6.1	3.8	0.8	16.7	22.3	4.9
9.4	3.8	23.6	10.4	6.1	3.8	0.8	17.2	21.6	4.9
9.6	3.7	23.6	10.4	6.1	3.9	0.8	16.9	21.8	4.8
9.8	3.6	23.8	10.4	6.2	4.0	0.8	16.6	21.8	5.0
10.0	3.5	23.8	10.5	6.2	4.1	0.8	17.5	21.0	5.0
11.0	3.0	23.9	11.4	7.0	4.7	0.8	15.9	22.4	5.1
12.0	2.4	23.9	12.9	7.2	5.1	0.8	16.4	21.9	5.4
13.0	1.4	24.0	13.6	5.9	5.3	0.8	-	-	-
14.0	-0.4	24.9	11.3	4.4	6.1	0.7	-	-	-
15.0	-2.2	25.5	8.5	3.6	6.5	0.7	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +0.8V$ ,  $I_{DD} = 1mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	3.7	18.6	7.5	4.1	1.8	0.6	7.6	21.2	19.4
0.4	3.5	18.7	7.5	4.2	1.8	0.6	7.9	22.0	7.2
0.6	3.4	18.8	7.4	4.4	1.9	0.6	7.8	22.0	6.2
0.8	3.3	18.8	7.4	4.5	1.9	0.7	7.9	21.8	6.1
1.0	3.2	18.9	7.4	4.6	2.0	0.7	7.3	21.4	5.8
1.2	3.2	18.9	7.5	4.6	2.0	0.7	7.3	21.8	5.9
1.4	3.1	19.0	7.5	4.7	2.1	0.7	7.2	21.8	5.8
1.6	3.0	19.0	7.7	4.8	2.1	0.7	7.1	22.2	5.9
1.8	2.8	19.1	7.8	4.8	2.2	0.7	7.1	22.4	5.8
2.0	2.8	19.1	7.9	4.8	2.2	0.7	6.9	22.3	6.0
2.2	2.6	19.2	8.1	4.8	2.3	0.7	7.3	21.4	5.9
2.4	2.5	19.2	8.3	4.8	2.3	0.7	7.3	22.4	6.0
2.6	2.3	19.3	8.7	4.8	2.4	0.7	6.8	22.1	6.1
2.8	2.1	19.4	9.0	4.8	2.5	0.7	6.6	22.1	6.1
3.0	1.9	19.5	9.2	4.8	2.6	0.7	6.7	22.1	6.2
3.2	1.8	19.6	9.3	4.7	2.6	0.7	7.5	22.2	6.2
3.4	1.6	19.7	9.4	4.7	2.7	0.7	7.0	22.8	6.2
3.6	1.4	19.8	9.5	4.7	2.8	0.7	7.0	22.1	6.1
3.8	1.2	19.9	9.6	4.6	2.9	0.7	6.9	22.0	6.4
4.0	0.9	20.1	9.7	4.6	3.1	0.7	6.8	21.6	6.4
4.2	0.6	20.4	9.7	4.5	3.2	0.7	6.8	21.5	6.5
4.4	0.3	20.6	9.6	4.5	3.4	0.7	6.8	22.3	6.5
4.6	-0.2	21.0	9.5	4.4	3.6	0.7	6.7	21.8	6.5
4.8	-0.6	21.3	9.3	4.4	3.9	0.7	6.7	22.3	6.8
5.0	-1.1	21.8	9.2	4.4	4.4	0.7	6.7	22.8	6.8
5.2	-1.6	22.3	9.1	4.4	4.9	0.7	6.6	22.2	7.1
5.4	-2.0	22.5	9.0	4.4	5.2	0.7	6.7	21.6	7.1
5.6	-2.2	22.7	8.9	4.2	5.3	0.7	6.7	21.4	7.3
5.8	-2.5	22.8	8.9	3.9	5.3	0.6	6.6	21.8	7.3
6.0	-2.7	23.0	8.9	3.7	5.5	0.6	6.6	21.4	7.4
6.2	-2.9	23.2	9.1	3.6	5.7	0.6	6.6	21.6	7.5
6.4	-3.2	23.4	9.2	3.6	5.9	0.6	6.6	21.5	7.5
6.6	-3.4	23.6	9.4	3.6	6.2	0.6	6.6	21.2	7.6
6.8	-3.6	23.8	9.6	3.6	6.6	0.6	6.6	21.9	7.5
7.0	-3.8	23.9	9.8	3.7	7.0	0.6	6.6	21.9	7.9
7.2	-4.0	24.1	10.0	3.7	7.3	0.6	6.5	22.0	8.2
7.4	-4.1	24.2	10.2	3.8	7.8	0.6	6.5	21.5	8.0
7.6	-4.3	24.3	10.4	4.0	8.1	0.6	6.5	21.5	7.9
7.8	-4.4	24.4	10.5	4.1	8.5	0.7	6.5	21.5	8.7
8.0	-4.5	24.4	10.6	4.2	8.8	0.7	6.4	21.7	8.2
8.2	-4.6	24.5	10.6	4.4	9.2	0.7	6.4	22.0	8.2
8.4	-4.7	24.6	10.6	4.5	9.6	0.7	6.4	21.8	8.8
8.6	-4.9	24.8	10.5	4.6	10.1	0.7	6.4	22.1	8.7
8.8	-5.0	24.8	10.4	4.7	10.3	0.7	6.4	21.9	8.7
9.0	-5.1	24.9	10.2	4.8	10.7	0.7	6.5	21.7	8.9
9.2	-5.3	24.9	10.1	4.8	10.9	0.7	6.4	22.4	9.1
9.4	-5.4	25.0	10.0	4.9	11.2	0.7	6.4	21.7	8.9
9.6	-5.5	25.1	10.0	4.9	11.5	0.7	6.4	21.9	9.4
9.8	-5.7	25.1	10.1	4.9	11.9	0.7	6.4	22.0	9.3
10.0	-5.8	25.2	10.3	5.0	12.3	0.7	6.4	21.3	9.3
11.0	-6.4	25.3	11.3	5.8	14.5	0.8	6.2	22.2	9.7
12.0	-7.0	24.9	12.8	6.0	15.7	0.8	6.3	21.4	10.1
13.0	-8.0	24.8	13.1	5.0	15.9	0.7	-	-	-
14.0	-9.9	25.5	10.6	3.8	17.6	0.6	-	-	-
15.0	-11.6	25.7	8.2	3.2	18.1	0.6	-	-	-



## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +5V$ ,  $I_{DD} = 74mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	16.2	25.6	16.7	19.6	1.6	0.9	25.9	20.6	9.5
0.4	16.3	25.2	19.8	20.5	1.6	0.9	24.9	20.6	5.3
0.6	16.4	25.2	20.8	20.6	1.6	0.9	24.1	20.9	4.9
0.8	16.4	25.2	21.7	20.9	1.6	0.9	27.2	20.9	4.8
1.0	16.4	25.3	22.2	21.1	1.6	0.9	27.0	20.7	4.8
1.2	16.4	25.3	22.8	21.3	1.6	0.9	26.8	21.0	4.8
1.4	16.4	25.4	23.3	21.8	1.6	0.9	27.1	20.9	4.7
1.6	16.4	25.5	23.8	21.9	1.6	0.9	27.8	21.1	4.7
1.8	16.4	25.6	24.4	22.7	1.6	0.9	28.0	20.9	4.7
2.0	16.4	25.7	24.7	22.8	1.7	0.9	28.5	21.0	4.7
2.2	16.4	25.8	24.8	23.5	1.7	0.9	28.3	21.0	4.7
2.4	16.4	25.9	24.7	23.8	1.7	0.9	27.7	20.9	4.7
2.6	16.4	26.1	24.3	23.8	1.7	0.9	27.1	21.0	4.8
2.8	16.3	26.3	24.0	23.6	1.8	0.9	28.4	20.7	4.8
3.0	16.3	26.4	23.6	23.4	1.8	0.9	28.7	20.9	4.8
3.2	16.4	26.5	22.9	23.0	1.8	0.9	28.4	20.7	4.8
3.4	16.4	26.6	21.9	22.0	1.8	0.9	29.2	20.8	4.8
3.6	16.3	26.8	21.1	21.3	1.9	0.9	28.5	20.7	4.8
3.8	16.3	27.0	20.5	20.3	1.9	0.9	30.3	20.3	4.8
4.0	16.3	27.1	20.2	19.7	1.9	0.9	31.5	20.6	4.8
4.2	16.2	27.3	20.0	18.9	2.0	0.9	31.0	20.2	4.8
4.4	16.2	27.4	19.9	18.3	2.0	0.9	31.7	20.4	4.8
4.6	16.1	27.6	19.8	17.6	2.1	0.9	33.7	20.3	4.8
4.8	16.1	27.8	19.6	16.9	2.1	0.9	30.5	20.2	4.8
5.0	16.0	28.0	19.4	16.3	2.1	0.9	30.1	20.4	4.9
5.2	15.9	28.2	19.0	15.5	2.2	0.9	31.1	20.0	4.8
5.4	15.9	28.3	18.6	14.9	2.2	0.9	29.3	20.0	4.8
5.6	15.8	28.4	18.0	14.3	2.3	0.9	28.8	19.9	4.8
5.8	15.7	28.6	17.5	14.0	2.3	0.9	28.4	19.9	4.7
6.0	15.7	28.6	17.2	13.7	2.3	0.9	27.8	19.7	4.8
6.2	15.6	28.8	16.9	13.6	2.4	0.9	27.6	19.7	4.8
6.4	15.5	28.8	16.5	13.5	2.4	0.9	27.0	19.7	4.8
6.6	15.5	28.8	16.3	13.6	2.4	0.9	28.0	19.6	4.8
6.8	15.4	28.9	15.9	13.8	2.5	1.0	27.0	19.7	4.8
7.0	15.4	28.9	15.6	14.2	2.5	1.0	27.3	19.5	4.8
7.2	15.3	28.9	15.3	14.7	2.5	1.0	27.1	19.6	4.8
7.4	15.2	28.9	15.0	15.3	2.6	1.0	27.0	19.2	4.8
7.6	15.1	29.0	14.5	16.0	2.6	1.0	26.4	19.4	4.8
7.8	15.0	29.1	14.0	16.6	2.7	1.0	26.1	19.1	4.9
8.0	14.9	29.0	13.6	17.0	2.7	1.0	27.9	19.3	4.9
8.2	14.8	29.1	13.1	17.4	2.7	1.0	25.9	19.2	4.9
8.4	14.7	29.1	12.6	17.5	2.8	1.0	25.8	19.1	5.0
8.6	14.6	29.1	12.1	17.8	2.8	1.0	26.4	19.3	5.0
8.8	14.5	29.1	11.7	17.8	2.8	1.0	25.6	19.0	5.0
9.0	14.4	29.0	11.5	17.8	2.8	1.0	26.0	19.2	5.0
9.2	14.3	29.0	11.3	17.8	2.8	1.0	26.0	19.0	5.0
9.4	14.1	29.0	11.2	18.0	2.9	1.0	25.6	18.7	5.1
9.6	14.0	29.1	11.2	18.2	2.9	1.0	26.1	19.0	5.1
9.8	13.8	29.0	11.3	18.5	2.9	1.0	25.2	18.6	5.1
10.0	13.7	29.0	11.3	18.9	3.0	1.0	27.1	19.0	5.2
11.0	12.8	29.2	11.4	16.2	3.4	1.0	27.2	18.6	5.3
12.0	12.1	29.4	11.0	12.2	3.6	1.0	26.7	18.3	5.4
13.0	11.0	29.8	10.6	9.8	4.1	1.0	-	-	-
14.0	9.4	30.9	8.7	8.4	5.0	1.0	-	-	-
15.0	8.0	31.7	6.8	7.6	5.7	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +4V$ ,  $I_{DD} = 57mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	15.5	24.7	18.5	30.5	1.6	0.9	23.1	20.7	10.1
0.4	15.6	24.4	23.3	33.5	1.6	0.9	21.8	20.9	5.3
0.6	15.7	24.4	25.5	33.2	1.6	0.9	22.1	21.0	4.9
0.8	15.7	24.4	27.1	33.9	1.6	0.9	24.3	21.0	4.8
1.0	15.7	24.5	28.3	34.8	1.6	0.9	24.5	20.9	4.8
1.2	15.7	24.5	29.7	35.2	1.6	0.9	25.1	21.0	4.7
1.4	15.7	24.6	30.9	38.0	1.6	0.9	25.2	21.0	4.7
1.6	15.7	24.7	32.0	38.7	1.6	0.9	25.4	21.3	4.7
1.8	15.7	24.8	33.3	44.4	1.6	0.9	25.0	21.1	4.7
2.0	15.7	24.9	33.7	40.9	1.7	0.9	25.3	21.1	4.7
2.2	15.7	25.0	33.3	37.7	1.7	0.9	26.1	21.1	4.7
2.4	15.7	25.2	32.6	33.9	1.7	0.9	25.8	21.1	4.7
2.6	15.6	25.3	31.8	33.1	1.7	0.9	25.4	21.1	4.8
2.8	15.6	25.4	30.8	30.5	1.8	0.9	26.8	20.9	4.8
3.0	15.6	25.6	29.9	29.8	1.8	0.9	27.0	21.1	4.8
3.2	15.6	25.7	28.2	27.8	1.8	0.9	27.8	20.9	4.8
3.4	15.6	25.8	26.3	25.9	1.8	0.9	26.8	21.1	4.8
3.6	15.6	25.9	24.8	24.3	1.9	0.9	27.1	20.9	4.8
3.8	15.5	26.1	23.8	22.2	1.9	0.9	28.3	20.6	4.8
4.0	15.5	26.3	22.9	20.9	1.9	0.9	28.3	20.8	4.8
4.2	15.4	26.4	22.3	19.4	2.0	0.9	29.0	20.5	4.8
4.4	15.4	26.6	21.6	18.1	2.0	0.9	29.9	20.8	4.8
4.6	15.3	26.7	21.0	16.9	2.0	0.9	29.6	20.6	4.8
4.8	15.2	26.9	20.3	15.9	2.1	0.9	28.8	20.6	4.8
5.0	15.2	27.1	19.6	14.9	2.1	0.9	29.0	20.8	4.8
5.2	15.1	27.3	18.9	14.1	2.2	0.9	28.7	20.4	4.8
5.4	15.0	27.4	18.2	13.4	2.2	0.9	27.6	20.3	4.8
5.6	14.9	27.6	17.5	12.8	2.2	0.9	28.2	20.1	4.8
5.8	14.8	27.7	16.9	12.5	2.3	0.9	27.2	20.3	4.8
6.0	14.7	27.7	16.6	12.2	2.3	0.9	26.9	20.0	4.8
6.2	14.7	27.9	16.2	12.0	2.3	0.9	26.6	20.1	4.8
6.4	14.6	28.0	15.9	11.9	2.4	0.9	25.9	20.0	4.8
6.6	14.5	28.0	15.7	12.0	2.4	0.9	26.2	19.9	4.8
6.8	14.5	28.0	15.5	12.2	2.5	0.9	25.7	19.9	4.8
7.0	14.4	28.1	15.2	12.5	2.5	0.9	26.0	19.9	4.8
7.2	14.3	28.1	15.0	13.0	2.5	1.0	25.5	20.0	4.8
7.4	14.3	28.1	14.7	13.5	2.5	1.0	25.4	19.6	4.8
7.6	14.2	28.1	14.3	14.1	2.6	1.0	25.8	19.6	4.8
7.8	14.1	28.2	13.9	14.6	2.6	1.0	26.1	19.4	4.9
8.0	14.0	28.2	13.5	15.1	2.7	1.0	25.7	19.7	4.9
8.2	13.9	28.1	13.0	15.4	2.7	1.0	24.7	19.4	4.9
8.4	13.8	28.1	12.6	15.7	2.7	1.0	24.4	19.5	5.0
8.6	13.7	28.2	12.1	16.0	2.7	1.0	25.2	19.5	5.0
8.8	13.6	28.2	11.7	16.0	2.7	1.0	24.7	19.1	5.0
9.0	13.5	28.2	11.5	16.1	2.8	1.0	24.8	19.4	5.0
9.2	13.4	28.1	11.3	16.1	2.8	1.0	24.5	19.1	5.0
9.4	13.3	28.1	11.2	16.3	2.8	1.0	24.6	18.9	5.0
9.6	13.2	28.2	11.3	16.6	2.9	1.0	24.1	19.0	5.1
9.8	13.1	28.2	11.3	16.9	2.9	1.0	24.1	18.8	5.1
10.0	12.9	28.2	11.3	17.4	3.0	1.0	25.4	19.0	5.1
11.0	12.1	28.4	11.6	16.3	3.3	1.0	25.1	18.6	5.3
12.0	11.5	28.7	11.2	12.4	3.6	1.0	24.7	18.3	5.4
13.0	10.3	29.1	10.9	9.7	4.0	1.0	-	-	-
14.0	8.7	30.1	8.9	8.3	4.9	1.0	-	-	-
15.0	7.3	31.2	6.9	7.3	5.7	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +3V$ ,  $I_{DD} = 41mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	14.0	23.2	20.5	19.0	1.6	0.9	17.7	20.9	11.2
0.4	14.2	23.1	26.0	18.8	1.6	0.9	18.0	21.5	5.5
0.6	14.2	23.0	27.6	19.0	1.6	0.9	18.1	21.5	5.0
0.8	14.2	23.0	27.6	18.8	1.6	0.9	19.8	21.4	4.9
1.0	14.2	23.1	27.3	18.8	1.6	0.9	19.3	21.3	4.9
1.2	14.2	23.2	26.7	18.8	1.6	0.9	19.6	21.3	4.9
1.4	14.2	23.2	26.3	18.6	1.6	0.9	20.0	21.4	4.8
1.6	14.2	23.3	25.9	18.6	1.6	0.9	20.4	21.6	4.8
1.8	14.1	23.4	25.4	18.2	1.7	0.9	19.8	21.5	4.8
2.0	14.1	23.6	25.1	18.2	1.7	0.9	20.1	21.5	4.8
2.2	14.1	23.7	25.1	17.8	1.7	0.9	21.0	21.2	4.8
2.4	14.1	23.8	25.4	17.6	1.7	0.9	20.1	21.5	4.8
2.6	14.0	23.9	26.1	17.7	1.8	0.9	20.7	21.4	4.9
2.8	14.0	24.0	27.0	17.6	1.8	0.9	21.2	21.3	4.9
3.0	14.0	24.2	27.5	17.7	1.8	0.9	21.0	21.4	4.9
3.2	14.0	24.3	28.3	17.6	1.8	0.9	21.8	21.3	4.9
3.4	14.0	24.4	28.8	17.6	1.8	0.9	21.2	21.5	4.9
3.6	14.0	24.5	28.4	17.5	1.9	0.9	22.1	21.2	4.9
3.8	13.9	24.7	27.0	17.0	1.9	0.9	22.0	21.0	4.9
4.0	13.9	24.8	25.4	16.4	1.9	0.9	22.1	21.0	4.9
4.2	13.8	25.0	23.8	15.4	2.0	0.9	21.7	20.8	4.9
4.4	13.7	25.1	22.1	14.5	2.0	0.9	22.4	21.1	4.9
4.6	13.6	25.3	20.7	13.6	2.0	0.9	24.1	20.8	4.9
4.8	13.5	25.5	19.4	12.8	2.1	0.9	22.7	21.0	4.9
5.0	13.4	25.7	18.3	12.0	2.1	0.9	22.1	21.1	4.9
5.2	13.3	25.9	17.4	11.3	2.2	0.9	22.8	20.7	5.0
5.4	13.1	26.0	16.6	10.7	2.2	0.9	21.9	20.6	4.9
5.6	13.0	26.1	15.9	10.2	2.2	0.9	23.1	20.5	4.9
5.8	12.9	26.3	15.5	9.9	2.3	0.9	22.3	20.6	4.9
6.0	12.8	26.4	15.1	9.7	2.3	0.9	24.3	20.3	4.9
6.2	12.8	26.5	14.8	9.6	2.3	0.9	23.3	20.4	4.9
6.4	12.7	26.5	14.6	9.5	2.4	0.9	22.6	20.3	4.9
6.6	12.6	26.6	14.5	9.6	2.4	0.9	23.8	20.2	4.9
6.8	12.6	26.6	14.4	9.7	2.5	0.9	23.1	20.4	4.9
7.0	12.5	26.6	14.3	9.9	2.5	0.9	23.8	20.5	4.9
7.2	12.5	26.7	14.1	10.3	2.5	0.9	24.0	20.4	4.9
7.4	12.4	26.7	14.1	10.6	2.6	0.9	24.0	20.1	4.9
7.6	12.3	26.7	13.8	11.1	2.6	0.9	25.8	20.1	4.9
7.8	12.3	26.7	13.6	11.5	2.6	0.9	25.0	20.0	4.9
8.0	12.2	26.7	13.3	11.9	2.7	1.0	23.9	20.3	5.0
8.2	12.1	26.7	12.9	12.2	2.7	1.0	24.3	20.0	5.0
8.4	12.0	26.8	12.5	12.4	2.7	1.0	25.0	20.1	5.1
8.6	11.9	26.8	12.0	12.6	2.8	1.0	23.8	20.0	5.1
8.8	11.9	26.7	11.7	12.6	2.7	1.0	24.6	19.7	5.1
9.0	11.8	26.7	11.5	12.7	2.8	1.0	24.9	19.8	5.1
9.2	11.7	26.7	11.3	12.8	2.8	1.0	23.4	19.7	5.1
9.4	11.6	26.6	11.3	13.0	2.8	1.0	23.5	19.5	5.2
9.6	11.5	26.7	11.3	13.2	2.9	1.0	22.9	19.5	5.2
9.8	11.4	26.7	11.4	13.5	2.9	1.0	22.3	19.4	5.2
10.0	11.3	26.7	11.4	14.0	3.0	1.0	22.8	19.2	5.2
11.0	10.5	26.9	11.7	14.8	3.4	1.0	21.5	18.8	5.4
12.0	10.0	27.2	11.5	11.8	3.6	1.0	21.4	18.6	5.6
13.0	8.9	27.7	11.4	9.1	4.0	1.0	-	-	-
14.0	7.2	28.8	9.3	7.6	4.9	0.9	-	-	-
15.0	5.7	29.8	7.0	6.6	5.6	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +2V$ ,  $I_{DD} = 28mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	10.3	21.1	16.0	8.5	1.7	0.8	11.2	21.1	13.4
0.4	10.5	20.9	15.9	8.8	1.6	0.8	11.9	21.7	6.2
0.6	10.5	20.9	15.7	8.8	1.6	0.8	12.2	21.6	5.5
0.8	10.5	20.9	15.5	8.8	1.6	0.8	12.6	21.5	5.4
1.0	10.5	21.0	15.4	8.9	1.7	0.8	12.5	21.3	5.4
1.2	10.5	21.1	15.3	8.8	1.7	0.8	12.6	21.3	5.3
1.4	10.4	21.2	15.1	8.9	1.7	0.8	13.0	21.4	5.3
1.6	10.4	21.3	15.1	8.8	1.7	0.8	13.1	21.6	5.3
1.8	10.3	21.4	15.0	8.9	1.8	0.8	12.8	21.7	5.3
2.0	10.3	21.5	15.0	8.8	1.8	0.8	12.8	21.6	5.3
2.2	10.3	21.6	15.1	8.9	1.8	0.8	13.4	21.2	5.3
2.4	10.3	21.7	15.4	8.9	1.8	0.8	12.8	21.6	5.3
2.6	10.2	21.8	15.8	9.0	1.9	0.8	13.3	21.5	5.4
2.8	10.2	21.9	16.1	9.1	1.9	0.8	13.5	21.5	5.4
3.0	10.2	22.0	16.3	9.1	1.9	0.8	13.4	21.4	5.4
3.2	10.2	22.0	16.6	9.2	1.9	0.8	14.0	21.4	5.4
3.4	10.2	22.1	17.0	9.2	1.9	0.8	13.3	21.7	5.4
3.6	10.2	22.2	17.3	9.3	2.0	0.8	13.9	21.3	5.4
3.8	10.1	22.3	17.6	9.2	2.0	0.8	13.7	21.2	5.4
4.0	10.1	22.4	17.6	9.1	2.0	0.8	13.6	21.1	5.4
4.2	10.0	22.6	17.3	8.9	2.1	0.8	13.4	20.9	5.3
4.4	9.8	22.7	16.9	8.6	2.1	0.8	13.6	21.3	5.3
4.6	9.7	22.9	16.3	8.3	2.2	0.8	14.2	21.0	5.3
4.8	9.5	23.2	15.7	7.8	2.2	0.8	13.4	21.2	5.4
5.0	9.3	23.4	15.0	7.5	2.3	0.8	13.3	21.4	5.4
5.2	9.2	23.5	14.3	7.1	2.3	0.8	13.4	20.9	5.3
5.4	9.0	23.7	13.8	6.8	2.3	0.8	13.0	20.8	5.4
5.6	8.8	23.9	13.3	6.6	2.4	0.8	13.7	20.7	5.4
5.8	8.7	24.0	12.9	6.4	2.4	0.8	13.1	20.8	5.5
6.0	8.6	24.1	12.6	6.3	2.5	0.8	14.1	20.5	5.4
6.2	8.5	24.2	12.5	6.2	2.5	0.8	13.3	20.6	5.4
6.4	8.4	24.2	12.4	6.1	2.5	0.8	13.1	20.6	5.4
6.6	8.3	24.3	12.4	6.2	2.6	0.8	13.4	20.5	5.4
6.8	8.3	24.3	12.5	6.3	2.6	0.8	13.1	20.7	5.4
7.0	8.2	24.3	12.7	6.4	2.7	0.8	13.3	20.8	5.4
7.2	8.2	24.2	12.8	6.6	2.7	0.8	13.1	20.7	5.4
7.4	8.1	24.2	12.9	6.8	2.7	0.8	13.1	20.5	5.4
7.6	8.1	24.2	13.0	7.0	2.8	0.8	13.9	20.4	5.5
7.8	8.0	24.2	12.9	7.2	2.8	0.8	13.5	20.4	5.5
8.0	8.0	24.2	12.8	7.4	2.8	0.8	13.3	20.7	5.5
8.2	7.9	24.2	12.6	7.6	2.9	0.8	13.1	20.6	5.6
8.4	7.8	24.1	12.4	7.7	2.9	0.9	13.3	20.6	5.6
8.6	7.8	24.2	12.1	7.9	2.9	0.9	13.2	20.5	5.6
8.8	7.8	24.2	11.8	7.9	2.9	0.9	13.7	20.4	5.6
9.0	7.7	24.1	11.6	8.0	2.9	0.9	14.2	20.2	5.7
9.2	7.6	24.0	11.5	8.1	2.9	0.9	13.6	20.4	5.6
9.4	7.6	24.0	11.4	8.2	3.0	0.9	14.0	20.0	5.7
9.6	7.5	24.0	11.3	8.3	3.0	0.9	14.0	20.0	5.7
9.8	7.4	24.0	11.4	8.5	3.0	0.9	14.0	20.1	5.7
10.0	7.4	23.9	11.4	8.8	3.1	0.9	14.3	19.6	5.8
11.0	6.8	24.0	12.1	9.8	3.5	0.9	13.2	20.3	6.0
12.0	6.3	24.2	12.6	8.9	3.6	0.9	13.6	20.1	6.2
13.0	5.5	24.4	13.2	7.2	3.9	0.9	-	-	-
14.0	3.8	25.5	11.0	6.0	4.7	0.8	-	-	-
15.0	2.3	26.4	8.0	5.0	5.2	0.8	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +1V$ ,  $I_{DD} = 12mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	8.3	19.2	9.6	6.4	1.5	0.7	11.8	20.7	16.5
0.4	8.2	19.2	9.8	6.4	1.5	0.7	12.4	21.4	7.0
0.6	8.2	19.2	9.8	6.5	1.5	0.7	12.3	21.5	6.0
0.8	8.1	19.3	9.8	6.5	1.6	0.7	12.5	21.3	5.9
1.0	8.1	19.4	9.8	6.6	1.6	0.7	12.2	20.9	5.8
1.2	8.0	19.5	9.8	6.6	1.6	0.7	12.6	21.2	5.8
1.4	7.9	19.6	9.9	6.7	1.7	0.7	12.6	21.2	5.8
1.6	7.8	19.7	9.9	6.7	1.7	0.7	12.8	21.5	5.8
1.8	7.7	19.9	10.0	6.7	1.7	0.7	12.6	21.7	5.8
2.0	7.7	20.0	10.0	6.8	1.8	0.7	12.7	21.4	5.8
2.2	7.6	20.1	10.2	6.8	1.8	0.7	13.3	20.9	5.8
2.4	7.5	20.2	10.4	6.8	1.8	0.7	13.0	21.4	5.9
2.6	7.4	20.2	10.6	6.8	1.9	0.8	13.3	21.3	5.9
2.8	7.4	20.3	10.9	6.9	1.9	0.8	13.4	21.3	5.9
3.0	7.4	20.4	11.1	6.9	1.9	0.8	13.5	21.3	5.9
3.2	7.3	20.4	11.4	7.0	2.0	0.8	13.9	21.4	6.0
3.4	7.3	20.5	11.7	7.1	2.0	0.8	13.8	21.7	5.9
3.6	7.2	20.6	11.9	7.2	2.1	0.8	14.3	21.4	5.9
3.8	7.1	20.7	12.1	7.2	2.1	0.8	14.3	21.2	5.9
4.0	7.0	20.9	12.1	7.1	2.2	0.8	14.2	21.0	5.9
4.2	6.8	21.1	12.0	7.0	2.2	0.8	14.3	20.8	5.9
4.4	6.6	21.3	11.8	6.8	2.3	0.8	14.7	21.2	5.9
4.6	6.4	21.5	11.5	6.6	2.4	0.8	15.1	21.0	5.9
4.8	6.1	21.8	11.2	6.3	2.5	0.8	15.0	21.1	5.9
5.0	5.8	22.1	10.9	6.0	2.6	0.8	15.3	21.4	6.0
5.2	5.6	22.3	10.7	5.8	2.7	0.7	15.5	20.7	5.9
5.4	5.3	22.6	10.5	5.5	2.8	0.7	15.5	20.5	6.0
5.6	5.1	22.8	10.3	5.3	2.9	0.7	16.4	20.4	6.1
5.8	4.9	23.0	10.2	5.2	2.9	0.7	16.2	20.6	6.1
6.0	4.7	23.2	10.2	5.1	3.0	0.7	16.9	20.4	6.1
6.2	4.5	23.3	10.2	5.0	3.1	0.7	16.6	20.4	6.1
6.4	4.4	23.5	10.3	5.0	3.2	0.7	16.6	20.3	6.1
6.6	4.2	23.6	10.5	5.0	3.3	0.7	17.0	20.1	6.2
6.8	4.1	23.8	10.7	5.0	3.5	0.7	16.5	20.5	6.1
7.0	4.0	23.8	10.8	5.2	3.6	0.7	16.8	20.5	6.3
7.2	3.9	23.9	11.0	5.3	3.7	0.7	16.0	20.6	6.3
7.4	3.8	24.0	11.2	5.5	3.9	0.7	15.5	20.2	6.3
7.6	3.7	24.1	11.3	5.7	4.0	0.8	17.2	20.1	6.3
7.8	3.6	24.2	11.4	5.9	4.2	0.8	16.0	20.2	6.4
8.0	3.4	24.2	11.5	6.1	4.3	0.8	15.5	20.3	6.4
8.2	3.3	24.3	11.5	6.2	4.5	0.8	14.3	20.5	6.5
8.4	3.2	24.4	11.3	6.4	4.6	0.8	14.4	20.3	6.6
8.6	3.1	24.5	11.2	6.4	4.7	0.8	14.2	20.4	6.6
8.8	3.0	24.5	11.1	6.4	4.8	0.8	14.8	20.3	6.7
9.0	2.9	24.5	11.1	6.4	4.8	0.8	15.0	20.1	6.7
9.2	2.9	24.5	11.0	6.4	4.9	0.8	14.1	20.6	6.8
9.4	2.8	24.6	11.1	6.5	5.0	0.8	14.2	20.0	6.7
9.6	2.7	24.6	11.2	6.5	5.1	0.8	14.0	20.0	6.9
9.8	2.6	24.6	11.4	6.7	5.2	0.8	13.7	20.1	6.9
10.0	2.5	24.6	11.5	6.9	5.4	0.8	14.1	19.7	6.9
11.0	1.7	24.9	12.5	8.3	6.6	0.9	11.7	20.2	7.3
12.0	1.0	24.8	13.3	7.8	7.0	0.9	12.2	19.5	7.6
13.0	-0.1	24.9	14.3	6.3	7.5	0.8	-	-	-
14.0	-2.0	25.8	11.7	5.4	9.2	0.8	-	-	-
15.0	-3.7	26.2	8.7	4.5	9.9	0.7	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +6V$ ,  $V_C = +0.8V$ ,  $I_{DD} = 6mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	7.1	18.7	8.1	5.7	1.5	0.7	12.1	20.5	16.5
0.4	7.1	18.7	8.3	5.7	1.5	0.7	12.3	21.4	7.0
0.6	7.0	18.8	8.4	5.8	1.6	0.7	12.2	21.4	6.0
0.8	6.9	18.9	8.4	5.8	1.6	0.7	12.4	21.3	6.0
1.0	6.9	18.9	8.4	5.8	1.6	0.7	12.4	20.9	5.9
1.2	6.7	19.1	8.5	5.9	1.7	0.7	12.6	21.1	5.9
1.4	6.6	19.2	8.5	5.9	1.7	0.7	12.7	21.3	5.9
1.6	6.5	19.3	8.6	6.0	1.7	0.7	12.7	21.5	6.0
1.8	6.4	19.5	8.7	6.0	1.8	0.7	13.0	21.8	5.9
2.0	6.3	19.6	8.8	6.0	1.8	0.7	13.4	21.6	5.9
2.2	6.2	19.7	9.0	6.0	1.9	0.7	13.5	20.8	6.0
2.4	6.1	19.8	9.2	6.0	1.9	0.7	13.8	21.6	6.0
2.6	6.0	19.9	9.4	6.1	2.0	0.7	14.0	21.3	6.1
2.8	5.9	20.0	9.7	6.1	2.0	0.7	14.1	21.3	6.1
3.0	5.8	20.0	10.0	6.1	2.1	0.7	14.8	21.3	6.1
3.2	5.8	20.1	10.2	6.1	2.1	0.7	14.7	21.4	6.1
3.4	5.7	20.2	10.4	6.2	2.2	0.7	15.4	21.8	6.1
3.6	5.6	20.3	10.7	6.3	2.2	0.8	15.7	21.3	6.1
3.8	5.5	20.4	10.8	6.3	2.3	0.8	15.8	21.3	6.1
4.0	5.3	20.6	10.8	6.3	2.4	0.8	15.6	20.9	6.2
4.2	5.0	20.8	10.7	6.2	2.5	0.8	14.8	20.8	6.2
4.4	4.8	21.1	10.6	6.0	2.6	0.8	14.6	21.3	6.2
4.6	4.5	21.4	10.4	5.8	2.7	0.7	14.7	20.9	6.2
4.8	4.2	21.7	10.2	5.5	2.8	0.7	13.4	21.1	6.3
5.0	3.8	22.1	10.0	5.3	3.0	0.7	13.2	21.4	6.4
5.2	3.5	22.4	9.8	5.1	3.1	0.7	12.7	20.8	6.5
5.4	3.2	22.7	9.7	4.9	3.3	0.7	12.1	20.4	6.4
5.6	2.9	22.9	9.6	4.7	3.4	0.7	12.5	20.2	6.6
5.8	2.7	23.1	9.6	4.6	3.5	0.7	11.6	20.4	6.6
6.0	2.4	23.4	9.7	4.5	3.7	0.7	12.2	20.3	6.7
6.2	2.2	23.5	9.8	4.5	3.8	0.7	11.3	20.4	6.7
6.4	2.0	23.7	9.9	4.5	4.0	0.7	10.9	20.2	6.7
6.6	1.9	23.9	10.1	4.5	4.2	0.7	11.0	19.9	6.9
6.8	1.7	24.0	10.3	4.6	4.4	0.7	10.5	20.3	6.9
7.0	1.6	24.1	10.5	4.7	4.6	0.7	10.5	20.4	7.0
7.2	1.4	24.3	10.7	4.8	4.8	0.7	10.0	20.5	7.1
7.4	1.3	24.3	10.9	5.0	5.0	0.7	9.8	20.0	7.0
7.6	1.2	24.5	11.0	5.2	5.3	0.7	10.7	20.0	7.1
7.8	1.0	24.6	11.2	5.4	5.6	0.7	10.0	20.0	7.2
8.0	0.9	24.7	11.3	5.6	5.9	0.8	9.8	20.1	7.2
8.2	0.7	24.8	11.3	5.7	6.1	0.8	9.3	20.4	7.3
8.4	0.6	24.9	11.2	5.8	6.3	0.8	9.4	20.1	7.6
8.6	0.4	25.0	11.1	5.9	6.5	0.8	9.2	20.4	7.4
8.8	0.3	25.0	11.0	5.9	6.6	0.8	9.5	20.2	7.7
9.0	0.2	25.0	11.0	5.9	6.7	0.8	9.8	20.1	7.8
9.2	0.1	25.0	11.0	5.9	6.8	0.8	9.2	20.6	7.7
9.4	0.0	25.1	11.1	5.9	6.9	0.8	9.3	19.9	7.7
9.6	-0.1	25.1	11.2	6.0	7.1	0.8	9.2	19.9	7.9
9.8	-0.2	25.1	11.4	6.2	7.3	0.8	9.2	20.1	8.0
10.0	-0.3	25.2	11.6	6.4	7.6	0.8	9.5	19.7	8.0
11.0	-1.3	25.4	12.6	7.8	9.6	0.9	8.5	19.9	8.5
12.0	-2.0	25.3	13.5	7.4	10.2	0.9	9.0	19.0	9.0
13.0	-3.2	25.2	14.3	6.0	10.8	0.8	-	-	-
14.0	-5.2	26.0	11.5	5.2	13.5	0.8	-	-	-
15.0	-7.0	26.3	8.7	4.3	14.4	0.7	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +5V$ ,  $I_{DD} = 69mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	16.3	25.8	16.1	18.7	1.6	0.9	26.4	19.5	8.6
0.4	16.5	25.4	18.6	19.3	1.6	0.9	26.3	19.0	4.7
0.6	16.5	25.3	19.5	19.5	1.6	0.9	26.8	19.5	4.3
0.8	16.5	25.4	20.1	19.7	1.6	0.9	26.9	19.5	4.2
1.0	16.5	25.4	20.5	19.9	1.6	0.9	27.0	19.0	4.2
1.2	16.6	25.5	21.1	20.3	1.6	0.9	28.4	19.7	4.2
1.4	16.6	25.6	21.5	20.6	1.6	0.9	28.4	19.2	4.1
1.6	16.6	25.6	21.9	20.9	1.6	0.9	28.1	19.8	4.1
1.8	16.6	25.8	22.4	21.4	1.6	0.9	28.5	19.3	4.1
2.0	16.6	25.8	22.8	21.7	1.7	0.9	27.9	19.4	4.1
2.2	16.6	26.0	22.8	21.8	1.7	0.9	28.5	19.4	4.1
2.4	16.6	26.1	22.5	22.0	1.7	0.9	27.8	19.2	4.2
2.6	16.5	26.2	22.1	21.6	1.7	0.9	30.0	19.5	4.2
2.8	16.5	26.4	21.9	21.2	1.8	0.9	29.3	18.8	4.2
3.0	16.5	26.5	21.8	21.0	1.8	0.9	29.4	19.2	4.2
3.2	16.5	26.7	21.2	20.5	1.8	0.9	31.8	18.9	4.2
3.4	16.5	26.8	20.5	19.7	1.8	0.9	30.1	18.9	4.2
3.6	16.5	27.0	19.9	19.1	1.9	0.9	32.1	18.9	4.2
3.8	16.5	27.1	19.4	18.4	1.9	0.9	34.5	18.4	4.2
4.0	16.5	27.3	19.1	17.8	1.9	0.9	35.1	18.8	4.2
4.2	16.4	27.5	19.0	17.3	2.0	0.9	36.8	18.3	4.2
4.4	16.4	27.6	18.9	16.7	2.0	0.9	34.7	18.6	4.2
4.6	16.3	27.8	18.9	16.3	2.0	0.9	32.6	18.4	4.2
4.8	16.3	28.0	19.0	15.8	2.1	0.9	31.5	18.4	4.2
5.0	16.2	28.1	18.9	15.3	2.1	0.9	31.0	18.6	4.3
5.2	16.2	28.2	18.8	14.7	2.1	0.9	29.7	18.3	4.3
5.4	16.1	28.5	18.6	14.2	2.2	0.9	29.0	18.3	4.2
5.6	16.0	28.5	18.2	13.8	2.2	0.9	31.0	18.2	4.2
5.8	16.0	28.5	17.9	13.5	2.2	0.9	29.1	18.4	4.2
6.0	15.9	28.7	17.7	13.3	2.3	0.9	28.3	18.1	4.2
6.2	15.9	28.7	17.4	13.2	2.3	0.9	28.1	18.2	4.2
6.4	15.8	28.8	17.1	13.2	2.3	0.9	28.2	18.2	4.2
6.6	15.8	28.9	16.9	13.4	2.3	0.9	28.1	18.1	4.2
6.8	15.7	28.9	16.6	13.6	2.4	0.9	28.8	18.3	4.2
7.0	15.7	29.0	16.3	13.9	2.4	1.0	26.8	18.1	4.2
7.2	15.6	29.0	15.9	14.4	2.4	1.0	27.4	18.3	4.2
7.4	15.6	29.0	15.5	14.8	2.5	1.0	27.4	17.7	4.2
7.6	15.5	29.0	15.0	15.3	2.5	1.0	28.2	18.0	4.2
7.8	15.4	28.9	14.4	15.6	2.5	1.0	27.5	17.7	4.2
8.0	15.3	28.9	13.9	15.8	2.5	1.0	27.7	17.9	4.2
8.2	15.2	28.9	13.3	16.0	2.5	1.0	26.6	17.8	4.3
8.4	15.1	28.9	12.8	16.0	2.5	1.0	27.3	17.6	4.3
8.6	15.0	28.9	12.3	16.2	2.5	1.0	26.8	17.9	4.3
8.8	14.9	28.8	12.0	16.2	2.5	1.0	27.6	17.4	4.3
9.0	14.8	28.8	11.7	16.3	2.6	1.0	27.3	17.7	4.3
9.2	14.7	28.8	11.4	16.3	2.6	1.0	26.6	17.4	4.3
9.4	14.6	28.7	11.3	16.4	2.6	1.0	26.7	17.2	4.4
9.6	14.4	28.7	11.2	16.5	2.6	1.0	26.8	17.6	4.4
9.8	14.3	28.7	11.2	16.5	2.7	1.0	26.6	17.0	4.4
10.0	14.2	28.8	11.3	16.6	2.7	1.0	27.2	17.5	4.4
11.0	13.4	28.7	11.5	13.9	2.9	1.0	26.9	17.2	4.5
12.0	12.7	28.9	11.2	10.8	3.1	1.0	28.2	17.1	4.6
13.0	11.6	29.2	10.5	8.9	3.4	0.9	-	-	-
14.0	10.0	30.2	8.8	7.8	4.2	1.0	-	-	-
15.0	8.9	31.0	7.0	7.3	4.6	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +4V$ ,  $I_{DD} = 53mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	15.4	24.7	18.3	34.6	1.6	0.9	23.1	19.6	9.2
0.4	15.5	24.4	22.7	36.4	1.6	0.9	24.4	19.4	4.8
0.6	15.6	24.4	24.5	38.2	1.6	0.9	24.3	19.7	4.4
0.8	15.6	24.4	25.9	39.3	1.6	0.9	24.6	19.6	4.3
1.0	15.6	24.4	26.7	40.9	1.6	0.9	24.1	19.2	4.2
1.2	15.6	24.5	28.0	46.3	1.6	0.9	24.6	19.8	4.2
1.4	15.6	24.5	28.9	48.9	1.6	0.9	24.6	19.4	4.2
1.6	15.6	24.6	30.0	44.2	1.6	0.9	25.1	20.0	4.2
1.8	15.6	24.7	31.2	39.9	1.6	0.9	25.2	19.6	4.2
2.0	15.6	24.9	31.9	35.9	1.7	0.9	25.5	19.8	4.2
2.2	15.6	25.0	31.7	33.1	1.7	0.9	26.0	19.4	4.2
2.4	15.6	25.1	30.7	31.1	1.7	0.9	25.0	19.5	4.2
2.6	15.5	25.3	29.7	29.6	1.7	0.9	25.4	19.7	4.2
2.8	15.5	25.4	29.0	28.2	1.8	0.9	26.0	19.0	4.3
3.0	15.5	25.5	28.6	26.7	1.8	0.9	26.4	19.4	4.3
3.2	15.5	25.6	27.3	25.1	1.8	0.9	26.7	19.1	4.3
3.4	15.5	25.7	25.7	23.1	1.8	0.9	25.8	19.2	4.2
3.6	15.5	25.9	24.4	21.7	1.9	0.9	27.1	19.0	4.2
3.8	15.5	26.0	23.3	20.1	1.9	0.9	27.7	18.6	4.3
4.0	15.4	26.2	22.6	18.9	1.9	0.9	26.8	18.9	4.3
4.2	15.4	26.4	22.2	17.8	1.9	0.9	27.3	18.5	4.3
4.4	15.3	26.5	21.6	16.6	2.0	0.9	27.8	18.9	4.2
4.6	15.3	26.7	21.1	15.7	2.0	0.9	29.2	18.5	4.2
4.8	15.2	26.8	20.6	14.8	2.0	0.9	27.0	18.7	4.3
5.0	15.1	27.1	20.1	14.0	2.1	0.9	26.3	18.9	4.3
5.2	15.0	27.2	19.4	13.2	2.1	0.9	27.1	18.5	4.2
5.4	14.9	27.4	18.7	12.6	2.2	0.9	26.6	18.5	4.3
5.6	14.9	27.4	18.1	12.1	2.2	0.9	27.2	18.3	4.3
5.8	14.8	27.5	17.6	11.8	2.2	0.9	26.3	18.6	4.2
6.0	14.7	27.6	17.1	11.5	2.2	0.9	26.8	18.1	4.3
6.2	14.7	27.7	16.8	11.4	2.3	0.9	26.1	18.4	4.2
6.4	14.6	27.7	16.5	11.4	2.3	0.9	25.8	18.3	4.2
6.6	14.6	27.7	16.4	11.5	2.3	0.9	25.3	18.3	4.2
6.8	14.5	27.8	16.2	11.7	2.3	0.9	24.8	18.4	4.2
7.0	14.5	27.8	16.0	11.9	2.4	0.9	24.8	18.4	4.2
7.2	14.4	27.8	15.7	12.3	2.4	0.9	24.6	18.6	4.2
7.4	14.4	27.8	15.4	12.7	2.4	0.9	24.9	18.2	4.2
7.6	14.3	27.8	15.0	13.1	2.4	1.0	25.0	18.2	4.2
7.8	14.3	27.7	14.5	13.5	2.4	1.0	24.6	17.9	4.3
8.0	14.2	27.7	14.0	13.7	2.4	1.0	24.9	18.4	4.3
8.2	14.1	27.7	13.5	14.0	2.5	1.0	23.9	17.9	4.3
8.4	14.0	27.8	13.0	14.1	2.5	1.0	24.0	18.1	4.3
8.6	13.9	27.7	12.5	14.4	2.5	1.0	23.7	18.1	4.4
8.8	13.9	27.7	12.1	14.5	2.5	1.0	24.6	17.7	4.3
9.0	13.8	27.7	11.8	14.7	2.5	1.0	25.0	17.9	4.3
9.2	13.7	27.6	11.6	14.8	2.5	1.0	24.1	17.7	4.4
9.4	13.5	27.6	11.5	15.0	2.5	1.0	24.1	17.6	4.4
9.6	13.4	27.6	11.4	15.2	2.6	1.0	24.1	17.6	4.4
9.8	13.3	27.5	11.4	15.4	2.6	1.0	23.4	17.5	4.4
10.0	13.2	27.5	11.4	15.7	2.7	1.0	24.2	17.4	4.4
11.0	12.5	27.6	11.8	14.2	2.9	1.0	24.4	17.2	4.5
12.0	11.8	27.8	11.6	11.1	3.0	1.0	24.6	17.0	4.6
13.0	10.8	28.2	11.0	9.0	3.4	0.9	-	-	-
14.0	9.2	29.3	9.2	7.8	4.1	0.9	-	-	-
15.0	8.0	30.1	7.1	7.0	4.6	1.0	-	-	-



## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +3V$ ,  $I_{DD} = 39mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	13.4	23.0	20.5	15.8	1.6	0.9	16.0	19.7	10.5
0.4	13.6	22.7	25.4	15.9	1.6	0.9	17.4	20.0	5.1
0.6	13.6	22.7	26.5	16.0	1.6	0.9	17.6	20.0	4.6
0.8	13.6	22.7	26.3	15.9	1.6	0.9	17.6	19.9	4.5
1.0	13.6	22.8	26.0	15.9	1.6	0.9	17.4	19.7	4.5
1.2	13.6	22.9	25.4	15.8	1.6	0.9	17.7	19.9	4.5
1.4	13.6	23.0	24.9	15.7	1.6	0.9	18.0	19.9	4.4
1.6	13.6	23.1	24.5	15.6	1.7	0.9	18.3	20.2	4.4
1.8	13.6	23.2	24.2	15.5	1.7	0.9	17.8	20.2	4.4
2.0	13.6	23.3	23.9	15.4	1.7	0.9	17.9	20.2	4.4
2.2	13.5	23.4	24.1	15.3	1.7	0.9	18.5	19.7	4.4
2.4	13.5	23.5	24.6	15.2	1.7	0.9	17.8	20.2	4.5
2.6	13.5	23.6	25.6	15.3	1.8	0.9	18.4	20.1	4.5
2.8	13.4	23.7	26.4	15.4	1.8	0.9	18.7	19.7	4.5
3.0	13.5	23.8	26.7	15.4	1.8	0.9	18.3	20.0	4.5
3.2	13.5	23.9	27.5	15.3	1.8	0.9	19.2	19.6	4.5
3.4	13.5	24.0	28.3	15.2	1.8	0.9	18.6	20.1	4.5
3.6	13.5	24.1	28.5	15.0	1.9	0.9	19.3	19.6	4.5
3.8	13.4	24.3	27.7	14.6	1.9	0.9	19.2	19.1	4.5
4.0	13.4	24.4	26.4	14.1	1.9	0.9	19.1	19.3	4.5
4.2	13.3	24.6	24.9	13.5	2.0	0.9	18.7	18.7	4.5
4.4	13.2	24.7	23.2	12.8	2.0	0.9	18.9	19.4	4.5
4.6	13.1	24.9	21.7	12.1	2.0	0.9	20.0	18.8	4.5
4.8	13.0	25.0	20.3	11.4	2.1	0.9	19.2	19.1	4.5
5.0	12.9	25.3	19.1	10.7	2.1	0.9	18.7	19.4	4.5
5.2	12.8	25.4	18.1	10.1	2.1	0.9	19.1	18.9	4.5
5.4	12.6	25.6	17.2	9.6	2.2	0.9	18.5	18.8	4.5
5.6	12.5	25.7	16.4	9.2	2.2	0.9	19.4	18.6	4.5
5.8	12.4	25.8	15.8	9.0	2.2	0.9	18.7	18.9	4.4
6.0	12.4	25.9	15.3	8.8	2.2	0.9	20.3	18.3	4.4
6.2	12.3	25.9	15.0	8.6	2.3	0.9	18.9	18.7	4.4
6.4	12.2	26.0	14.9	8.6	2.3	0.9	18.9	18.6	4.4
6.6	12.2	26.1	14.8	8.7	2.3	0.9	19.7	18.6	4.4
6.8	12.1	26.0	14.8	8.8	2.3	0.9	19.2	18.8	4.4
7.0	12.1	26.0	14.8	9.0	2.4	0.9	19.6	18.9	4.4
7.2	12.1	26.0	14.8	9.3	2.4	0.9	19.6	18.9	4.4
7.4	12.0	26.0	14.7	9.6	2.4	0.9	19.7	18.6	4.4
7.6	12.0	25.9	14.5	9.9	2.4	0.9	21.0	18.6	4.4
7.8	11.9	25.9	14.2	10.2	2.4	0.9	20.5	18.4	4.5
8.0	11.9	25.9	13.9	10.4	2.5	0.9	20.1	18.9	4.5
8.2	11.8	25.9	13.4	10.6	2.5	0.9	19.6	18.5	4.5
8.4	11.7	25.8	13.0	10.9	2.5	0.9	20.0	18.8	4.5
8.6	11.7	25.9	12.6	11.1	2.5	1.0	19.7	18.7	4.5
8.8	11.6	25.8	12.2	11.2	2.5	1.0	20.9	18.4	4.5
9.0	11.6	25.7	11.9	11.3	2.5	1.0	22.2	18.4	4.5
9.2	11.5	25.7	11.7	11.5	2.5	1.0	20.9	18.4	4.5
9.4	11.4	25.7	11.6	11.7	2.5	1.0	21.8	18.3	4.6
9.6	11.3	25.6	11.5	11.9	2.5	1.0	21.5	18.1	4.6
9.8	11.2	25.6	11.5	12.2	2.6	1.0	20.7	18.3	4.6
10.0	11.1	25.5	11.6	12.5	2.6	1.0	21.0	17.8	4.6
11.0	10.5	25.6	12.1	12.9	2.8	1.0	19.4	17.5	4.7
12.0	10.0	25.8	12.1	10.7	3.0	1.0	19.5	17.3	4.8
13.0	9.1	26.2	11.9	8.5	3.3	0.9	-	-	-
14.0	7.4	27.4	9.9	7.2	4.0	0.9	-	-	-
15.0	6.1	28.4	7.4	6.2	4.5	0.9	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +2V$ ,  $I_{DD} = 28mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	9.9	21.0	15.5	8.1	1.7	0.8	9.7	19.7	13.2
0.4	10.1	20.7	15.3	8.3	1.6	0.8	10.6	20.1	6.1
0.6	10.2	20.7	15.1	8.3	1.6	0.8	10.8	20.0	5.4
0.8	10.2	20.8	15.0	8.4	1.6	0.8	10.8	19.9	5.3
1.0	10.1	20.8	14.9	8.4	1.7	0.8	10.7	19.6	5.2
1.2	10.1	20.9	14.7	8.4	1.7	0.8	10.9	19.8	5.2
1.4	10.1	21.0	14.6	8.5	1.7	0.8	11.1	19.9	5.1
1.6	10.0	21.1	14.6	8.4	1.7	0.8	11.3	20.2	5.1
1.8	10.0	21.2	14.6	8.5	1.8	0.8	11.0	20.3	5.1
2.0	9.9	21.4	14.6	8.4	1.8	0.8	11.0	20.1	5.2
2.2	9.9	21.4	14.7	8.5	1.8	0.8	11.5	19.7	5.2
2.4	9.9	21.6	14.9	8.5	1.8	0.8	11.0	20.2	5.2
2.6	9.8	21.6	15.3	8.6	1.9	0.8	11.4	20.1	5.2
2.8	9.8	21.7	15.6	8.7	1.9	0.8	11.6	20.0	5.3
3.0	9.8	21.8	15.8	8.7	1.9	0.8	11.4	20.1	5.3
3.2	9.8	21.8	16.1	8.8	1.9	0.8	11.9	20.1	5.2
3.4	9.8	21.9	16.4	8.8	2.0	0.8	11.5	20.4	5.2
3.6	9.8	22.0	16.8	8.9	2.0	0.8	12.0	19.9	5.2
3.8	9.7	22.1	17.0	8.8	2.0	0.8	11.8	19.8	5.2
4.0	9.7	22.2	17.1	8.7	2.0	0.8	11.7	19.7	5.2
4.2	9.5	22.4	16.9	8.5	2.1	0.8	11.4	19.4	5.2
4.4	9.4	22.5	16.5	8.2	2.1	0.8	11.6	20.1	5.1
4.6	9.3	22.7	16.0	7.9	2.2	0.8	12.2	19.4	5.1
4.8	9.1	22.9	15.4	7.6	2.2	0.8	11.4	19.8	5.1
5.0	8.9	23.1	14.8	7.2	2.3	0.8	11.3	20.2	5.2
5.2	8.7	23.4	14.2	6.9	2.3	0.8	11.4	19.6	5.2
5.4	8.5	23.5	13.6	6.6	2.4	0.8	11.0	19.5	5.1
5.6	8.3	23.6	13.2	6.4	2.4	0.8	11.5	19.4	5.2
5.8	8.2	23.8	12.8	6.2	2.4	0.8	11.1	19.6	5.2
6.0	8.1	23.8	12.5	6.1	2.5	0.8	11.8	18.9	5.1
6.2	8.0	23.9	12.4	6.0	2.5	0.7	11.1	19.3	5.1
6.4	7.9	24.0	12.3	6.0	2.5	0.7	11.0	19.3	5.1
6.6	7.8	24.0	12.3	6.0	2.6	0.8	11.2	19.2	5.1
6.8	7.8	24.0	12.5	6.1	2.6	0.8	11.0	19.5	5.1
7.0	7.7	24.0	12.6	6.2	2.7	0.8	11.1	19.8	5.2
7.2	7.7	24.0	12.7	6.4	2.7	0.8	11.0	19.5	5.2
7.4	7.6	24.0	12.9	6.6	2.8	0.8	11.0	19.3	5.1
7.6	7.6	24.0	12.9	6.8	2.8	0.8	11.6	19.3	5.1
7.8	7.5	23.9	12.9	7.0	2.8	0.8	11.3	19.2	5.2
8.0	7.5	23.9	12.8	7.2	2.9	0.8	11.2	19.8	5.2
8.2	7.4	23.9	12.7	7.4	2.9	0.8	10.9	19.4	5.2
8.4	7.3	23.9	12.5	7.5	2.9	0.8	11.0	19.7	5.3
8.6	7.3	23.9	12.2	7.7	3.0	0.9	10.9	19.6	5.2
8.8	7.2	23.8	11.9	7.7	3.0	0.9	11.3	19.4	5.2
9.0	7.2	23.8	11.7	7.8	3.0	0.9	11.6	19.1	5.2
9.2	7.1	23.7	11.6	7.8	3.0	0.9	11.2	19.5	5.2
9.4	7.1	23.7	11.5	8.0	3.0	0.9	11.5	19.2	5.3
9.6	7.0	23.7	11.4	8.1	3.0	0.9	11.4	18.8	5.3
9.8	6.9	23.6	11.5	8.3	3.1	0.9	11.4	19.3	5.3
10.0	6.8	23.6	11.5	8.5	3.1	0.9	11.8	18.3	5.3
11.0	6.3	23.6	12.3	9.6	3.5	0.9	11.0	19.4	5.5
12.0	5.8	23.8	12.9	8.7	3.7	0.9	11.3	19.1	5.6
13.0	4.9	24.0	13.6	7.1	3.9	0.8	-	-	-
14.0	3.2	25.1	11.4	6.0	4.8	0.8	-	-	-
15.0	1.7	26.0	8.2	4.9	5.3	0.8	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +1V$ ,  $I_{DD} = 11mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	8.3	19.2	9.7	6.4	1.5	0.7	12.4	19.0	16.5
0.4	8.3	19.2	9.9	6.4	1.5	0.7	12.8	19.6	6.6
0.6	8.3	19.2	10.0	6.5	1.5	0.7	12.6	19.7	5.5
0.8	8.2	19.3	10.0	6.5	1.6	0.7	12.7	19.5	5.3
1.0	8.1	19.3	10.0	6.5	1.6	0.7	12.6	19.1	5.4
1.2	8.1	19.5	9.9	6.6	1.6	0.7	12.9	19.5	5.4
1.4	8.0	19.6	10.0	6.6	1.6	0.7	12.9	19.4	5.3
1.6	7.9	19.7	10.0	6.6	1.7	0.7	13.0	19.8	5.4
1.8	7.8	19.8	10.1	6.6	1.7	0.7	12.9	20.0	5.3
2.0	7.8	19.9	10.1	6.7	1.7	0.7	13.1	19.7	5.3
2.2	7.7	19.9	10.3	6.7	1.8	0.7	13.5	19.3	5.3
2.4	7.6	20.0	10.5	6.8	1.8	0.7	13.2	19.8	5.4
2.6	7.6	20.1	10.8	6.9	1.8	0.7	13.5	19.7	5.4
2.8	7.5	20.1	11.1	7.0	1.9	0.8	13.5	19.6	5.5
3.0	7.5	20.2	11.3	7.0	1.9	0.8	13.7	19.8	5.5
3.2	7.4	20.3	11.5	7.0	1.9	0.8	14.0	19.9	5.4
3.4	7.4	20.3	11.7	7.1	1.9	0.8	13.9	20.2	5.4
3.6	7.4	20.4	12.0	7.2	2.0	0.8	14.3	19.9	5.4
3.8	7.3	20.5	12.1	7.2	2.0	0.8	14.3	19.6	5.4
4.0	7.1	20.6	12.2	7.1	2.1	0.8	14.2	19.5	5.3
4.2	7.0	20.8	12.1	7.0	2.1	0.8	14.1	19.4	5.3
4.4	6.8	21.0	12.0	6.8	2.2	0.8	14.6	19.9	5.3
4.6	6.6	21.2	11.7	6.6	2.3	0.8	14.7	19.6	5.4
4.8	6.3	21.5	11.4	6.3	2.3	0.8	14.8	19.9	5.4
5.0	6.0	21.7	11.1	6.0	2.4	0.7	15.0	20.3	5.4
5.2	5.8	21.9	10.9	5.8	2.5	0.7	15.2	19.5	5.4
5.4	5.5	22.2	10.6	5.5	2.6	0.7	15.3	19.3	5.4
5.6	5.3	22.4	10.4	5.3	2.7	0.7	15.9	19.3	5.5
5.8	5.1	22.6	10.2	5.2	2.7	0.7	16.0	19.6	5.5
6.0	4.9	22.8	10.2	5.1	2.8	0.7	16.6	19.3	5.4
6.2	4.7	22.9	10.2	5.0	2.9	0.7	16.8	19.4	5.5
6.4	4.6	23.0	10.2	5.0	3.0	0.7	16.8	19.3	5.4
6.6	4.5	23.2	10.4	5.0	3.1	0.7	17.2	19.1	5.6
6.8	4.4	23.2	10.6	5.1	3.2	0.7	17.8	19.6	5.5
7.0	4.3	23.3	10.8	5.2	3.3	0.7	18.4	19.7	5.6
7.2	4.2	23.4	11.0	5.3	3.4	0.7	19.5	19.7	5.6
7.4	4.1	23.4	11.3	5.4	3.5	0.7	20.4	19.3	5.6
7.6	4.0	23.5	11.4	5.6	3.6	0.7	19.0	19.3	5.6
7.8	3.9	23.6	11.5	5.7	3.7	0.8	20.3	19.4	5.7
8.0	3.8	23.7	11.5	5.9	3.8	0.8	20.8	19.6	5.8
8.2	3.7	23.7	11.5	6.0	3.9	0.8	19.4	19.9	5.8
8.4	3.6	23.8	11.3	6.1	4.0	0.8	19.8	19.6	5.9
8.6	3.5	23.9	11.2	6.2	4.2	0.8	19.0	19.7	5.8
8.8	3.4	23.9	11.1	6.2	4.2	0.8	19.3	19.5	5.9
9.0	3.3	23.9	11.0	6.2	4.3	0.8	19.6	19.3	5.9
9.2	3.2	23.9	10.9	6.3	4.3	0.8	18.1	19.9	6.0
9.4	3.1	24.0	10.9	6.4	4.4	0.8	18.0	19.3	5.9
9.6	3.0	24.0	11.0	6.5	4.5	0.8	17.8	19.4	6.1
9.8	2.9	24.0	11.1	6.6	4.6	0.8	17.1	19.4	6.1
10.0	2.8	24.0	11.2	6.8	4.8	0.8	18.0	18.8	6.2
11.0	2.2	24.2	12.3	7.9	5.6	0.9	14.1	19.8	6.5
12.0	1.5	24.3	13.3	7.5	6.1	0.9	14.9	19.4	6.7
13.0	0.4	24.3	14.2	6.2	6.5	0.8	-	-	-
14.0	-1.5	25.3	11.7	5.3	8.1	0.8	-	-	-
15.0	-3.3	25.9	8.7	4.3	8.9	0.7	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +0.8V$ ,  $I_{DD} = 3mA$  @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	6.0	18.5	7.7	5.1	1.6	0.7	9.9	18.8	16.7
0.4	5.9	18.5	7.9	5.1	1.6	0.6	10.1	19.5	6.9
0.6	5.9	18.5	8.0	5.2	1.6	0.7	10.1	19.5	5.9
0.8	5.8	18.6	8.0	5.2	1.6	0.7	10.1	19.3	5.8
1.0	5.7	18.7	8.0	5.2	1.7	0.7	10.1	18.9	5.8
1.2	5.6	18.8	8.0	5.2	1.7	0.7	10.3	19.4	5.8
1.4	5.4	19.0	8.1	5.3	1.8	0.7	10.2	19.2	5.7
1.6	5.3	19.1	8.2	5.3	1.8	0.7	10.3	19.7	5.8
1.8	5.1	19.3	8.3	5.3	1.9	0.7	10.3	19.9	5.8
2.0	5.0	19.4	8.4	5.4	1.9	0.7	10.3	19.6	5.8
2.2	4.9	19.5	8.6	5.4	2.0	0.7	10.1	19.0	5.8
2.4	4.8	19.5	8.8	5.4	2.0	0.7	10.0	19.7	5.8
2.6	4.7	19.6	9.1	5.5	2.1	0.7	9.9	19.6	6.0
2.8	4.5	19.7	9.4	5.5	2.2	0.7	9.9	19.5	6.0
3.0	4.4	19.8	9.6	5.5	2.2	0.7	9.9	19.6	6.0
3.2	4.4	19.8	9.8	5.6	2.3	0.7	9.8	19.7	6.0
3.4	4.3	19.9	9.9	5.6	2.3	0.7	9.7	20.2	6.0
3.6	4.1	20.0	10.1	5.6	2.4	0.7	9.6	19.7	6.0
3.8	4.0	20.2	10.3	5.6	2.5	0.7	9.4	19.5	6.1
4.0	3.7	20.4	10.3	5.6	2.6	0.7	9.3	19.3	6.1
4.2	3.5	20.6	10.3	5.5	2.7	0.7	8.2	19.2	6.1
4.4	3.2	20.9	10.2	5.4	2.8	0.7	9.1	19.8	6.1
4.6	2.9	21.1	10.1	5.2	3.0	0.7	9.1	19.5	6.1
4.8	2.5	21.5	9.9	5.0	3.1	0.7	8.8	19.8	6.3
5.0	2.1	21.8	9.8	4.8	3.3	0.7	8.8	20.2	6.4
5.2	1.8	22.1	9.6	4.6	3.5	0.7	8.6	19.4	6.5
5.4	1.4	22.4	9.5	4.5	3.6	0.7	8.6	19.2	6.4
5.6	1.1	22.7	9.4	4.3	3.8	0.7	8.6	19.1	6.6
5.8	0.8	22.9	9.3	4.2	4.0	0.7	8.4	19.4	6.6
6.0	0.6	23.1	9.4	4.2	4.2	0.7	8.5	19.1	6.8
6.2	0.4	23.4	9.5	4.1	4.4	0.7	8.4	19.1	6.8
6.4	0.1	23.5	9.6	4.1	4.6	0.7	8.3	19.1	6.7
6.6	0.0	23.7	9.8	4.2	4.8	0.7	8.3	18.9	6.9
6.8	-0.2	23.8	10.1	4.2	5.0	0.7	8.1	19.6	6.8
7.0	-0.3	23.9	10.3	4.3	5.3	0.7	8.1	19.7	7.2
7.2	-0.5	24.1	10.6	4.4	5.5	0.7	7.9	19.7	7.2
7.4	-0.6	24.1	10.8	4.6	5.8	0.7	7.8	19.2	7.2
7.6	-0.8	24.3	11.0	4.7	6.1	0.7	8.1	19.2	7.2
7.8	-0.9	24.4	11.1	4.9	6.4	0.7	7.9	19.3	7.5
8.0	-1.1	24.4	11.1	5.0	6.7	0.7	7.8	19.6	7.5
8.2	-1.2	24.5	11.1	5.1	6.9	0.7	7.6	19.9	7.6
8.4	-1.4	24.7	11.0	5.2	7.2	0.7	7.6	19.6	7.9
8.6	-1.5	24.8	10.9	5.3	7.5	0.8	7.5	19.9	7.6
8.8	-1.7	24.8	10.8	5.3	7.6	0.8	7.7	19.7	7.9
9.0	-1.8	24.9	10.8	5.4	7.8	0.8	7.8	19.5	7.9
9.2	-1.9	24.9	10.8	5.4	8.0	0.8	7.5	20.1	8.0
9.4	-2.0	24.9	10.8	5.5	8.2	0.8	7.6	19.4	7.9
9.6	-2.2	25.0	10.9	5.6	8.5	0.8	7.6	19.5	8.2
9.8	-2.3	25.0	11.0	5.8	8.7	0.8	7.5	19.8	8.4
10.0	-2.4	25.0	11.1	5.9	9.1	0.8	7.7	19.1	8.6
11.0	-3.2	25.2	12.2	7.0	11.1	0.8	7.2	19.9	8.9
12.0	-4.1	25.1	13.3	6.7	12.0	0.8	7.4	18.9	9.4
13.0	-5.2	24.9	13.9	5.7	12.6	0.8	-	-	-
14.0	-7.2	25.8	11.2	4.9	15.7	0.7	-	-	-
15.0	-9.1	26.1	8.5	4.0	16.9	0.7	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +5V$ ,  $I_{DD} = 61mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	16.1	26.1	15.5	26.0	1.7	0.9	28.0	19.6	8.0
0.4	16.3	25.7	17.9	26.0	1.7	0.9	25.3	18.8	4.0
0.6	16.4	25.6	18.9	24.1	1.6	0.9	29.5	19.5	3.6
0.8	16.5	25.6	19.9	23.0	1.6	0.9	27.3	19.3	3.5
1.0	16.5	25.5	20.5	22.3	1.6	0.9	28.7	18.7	3.4
1.2	16.6	25.6	21.0	21.5	1.6	0.9	29.2	19.7	3.4
1.4	16.6	25.6	21.4	21.4	1.6	0.9	30.1	18.9	3.3
1.6	16.7	25.7	21.6	21.0	1.6	0.9	28.9	19.7	3.4
1.8	16.7	25.8	21.8	21.4	1.6	0.9	29.0	19.0	3.4
2.0	16.7	25.9	21.9	21.2	1.6	0.9	29.9	19.3	3.4
2.2	16.7	25.9	21.6	21.4	1.6	0.9	30.0	19.0	3.4
2.4	16.7	26.1	21.1	21.1	1.7	0.9	30.1	19.0	3.4
2.6	16.7	26.2	20.6	20.7	1.7	0.9	30.8	19.2	3.4
2.8	16.6	26.3	20.1	20.4	1.7	0.9	30.4	18.6	3.5
3.0	16.7	26.5	20.2	20.3	1.7	0.9	35.2	18.9	3.5
3.2	16.7	26.6	20.1	20.1	1.8	0.9	31.0	18.6	3.5
3.4	16.7	26.7	19.5	19.3	1.8	0.9	31.2	18.7	3.4
3.6	16.8	26.8	19.2	18.9	1.8	0.9	32.0	18.6	3.4
3.8	16.7	27.0	18.9	18.1	1.8	0.9	30.2	18.3	3.4
4.0	16.7	27.1	18.6	17.6	1.8	0.9	29.6	18.5	3.5
4.2	16.7	27.3	18.6	17.0	1.9	0.9	28.9	18.2	3.4
4.4	16.7	27.4	18.7	16.3	1.9	0.9	28.6	18.5	3.4
4.6	16.6	27.6	18.8	15.8	1.9	0.9	27.8	18.2	3.4
4.8	16.6	27.9	18.9	15.2	2.0	0.9	26.1	18.3	3.5
5.0	16.5	28.1	19.1	14.6	2.0	0.9	26.1	18.5	3.5
5.2	16.4	28.2	19.3	14.0	2.1	0.9	25.6	18.2	3.5
5.4	16.3	28.4	19.0	13.5	2.1	0.9	24.6	18.2	3.4
5.6	16.3	28.5	18.6	13.0	2.1	0.9	25.1	18.2	3.4
5.8	16.2	28.6	18.5	12.7	2.2	0.9	24.2	18.3	3.3
6.0	16.2	28.6	18.5	12.4	2.1	0.9	24.8	18.0	3.4
6.2	16.2	28.7	18.5	12.2	2.2	0.9	23.7	18.2	3.4
6.4	16.2	28.8	18.2	12.1	2.2	0.9	23.3	18.2	3.4
6.6	16.2	28.8	18.0	12.1	2.2	0.9	23.4	18.2	3.4
6.8	16.2	28.8	17.6	12.2	2.2	0.9	22.8	18.3	3.3
7.0	16.1	28.8	17.2	12.4	2.2	0.9	23.2	18.2	3.3
7.2	16.1	28.8	16.7	12.7	2.2	0.9	23.1	18.3	3.4
7.4	16.1	28.8	16.2	13.2	2.2	0.9	22.6	17.9	3.3
7.6	16.0	28.6	15.6	13.6	2.2	1.0	23.5	18.1	3.4
7.8	16.0	28.7	14.9	14.0	2.3	1.0	23.6	17.8	3.4
8.0	15.9	28.7	14.4	14.4	2.3	1.0	23.6	18.2	3.4
8.2	15.9	28.6	13.8	14.7	2.3	1.0	22.2	17.8	3.4
8.4	15.8	28.6	13.2	14.8	2.3	1.0	22.6	17.8	3.4
8.6	15.7	28.6	12.6	14.9	2.3	1.0	22.9	18.0	3.5
8.8	15.6	28.5	12.1	14.9	2.2	1.0	23.4	17.5	3.5
9.0	15.5	28.5	11.7	14.8	2.3	1.0	24.0	17.9	3.5
9.2	15.4	28.5	11.4	14.5	2.3	1.0	22.8	17.5	3.5
9.4	15.3	28.4	11.1	14.4	2.3	1.0	23.3	17.5	3.5
9.6	15.2	28.4	11.0	14.2	2.3	1.0	23.2	17.6	3.5
9.8	15.0	28.3	11.0	14.1	2.3	1.0	22.8	17.4	3.5
10.0	14.9	28.3	11.1	14.1	2.3	1.0	24.0	17.3	3.5
11.0	14.3	28.1	11.3	13.1	2.5	1.0	23.4	17.0	3.6
12.0	13.6	28.2	11.3	10.2	2.5	1.0	24.9	16.8	3.6
13.0	12.6	28.4	10.4	7.7	2.7	0.9	-	-	-
14.0	11.1	29.2	8.6	6.5	3.0	0.9	-	-	-
15.0	10.2	29.8	7.1	6.6	3.3	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +4V$ ,  $I_{DD} = 50mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	15.1	25.0	17.7	26.5	1.7	0.9	23.0	19.6	8.9
0.4	15.3	24.7	22.1	25.8	1.6	0.9	21.9	19.0	4.1
0.6	15.4	24.6	24.2	27.1	1.6	0.9	23.8	19.6	3.7
0.8	15.4	24.5	26.1	27.2	1.6	0.9	24.6	19.5	3.6
1.0	15.5	24.5	27.3	28.6	1.6	0.9	23.8	18.8	3.5
1.2	15.6	24.5	28.4	29.5	1.6	0.9	24.4	19.8	3.6
1.4	15.6	24.6	28.9	31.5	1.6	0.9	25.0	18.9	3.5
1.6	15.6	24.6	29.3	34.9	1.6	0.9	24.9	19.9	3.5
1.8	15.6	24.7	29.8	38.3	1.6	0.9	23.9	19.1	3.5
2.0	15.7	24.8	30.0	41.8	1.6	0.9	25.3	19.6	3.5
2.2	15.7	24.9	29.2	34.7	1.7	0.9	24.9	19.0	3.5
2.4	15.7	25.0	28.2	29.9	1.7	0.9	25.0	18.9	3.4
2.6	15.7	25.1	26.8	27.7	1.7	0.9	25.4	19.3	3.5
2.8	15.6	25.3	25.7	25.1	1.7	0.9	25.2	18.5	3.6
3.0	15.6	25.4	25.8	24.1	1.8	0.9	25.5	18.9	3.5
3.2	15.7	25.5	25.6	22.4	1.8	0.9	25.5	18.6	3.6
3.4	15.7	25.6	24.3	21.1	1.8	0.9	25.2	18.8	3.6
3.6	15.7	25.8	23.7	20.0	1.8	0.9	25.5	18.4	3.5
3.8	15.7	25.9	23.1	18.8	1.8	0.9	24.7	18.2	3.5
4.0	15.7	26.0	22.5	17.9	1.8	0.9	25.2	18.4	3.6
4.2	15.6	26.2	22.1	16.7	1.9	0.9	24.8	18.0	3.5
4.4	15.6	26.4	21.8	15.8	1.9	0.9	24.3	18.4	3.5
4.6	15.5	26.5	21.6	14.9	1.9	0.9	25.5	18.0	3.5
4.8	15.4	26.7	21.2	14.1	2.0	0.9	24.1	18.2	3.5
5.0	15.3	27.0	20.9	13.3	2.0	0.9	23.2	18.5	3.5
5.2	15.2	27.2	20.2	12.6	2.1	0.9	23.4	18.2	3.6
5.4	15.1	27.3	19.5	12.0	2.1	0.9	22.5	18.1	3.5
5.6	15.0	27.4	18.6	11.5	2.1	0.9	22.6	18.0	3.5
5.8	15.0	27.5	18.3	11.1	2.1	0.9	22.0	18.3	3.5
6.0	15.0	27.6	18.1	10.8	2.1	0.9	22.3	17.9	3.5
6.2	15.0	27.6	18.0	10.6	2.1	0.9	21.5	18.1	3.4
6.4	15.0	27.6	17.6	10.4	2.1	0.9	20.8	18.1	3.4
6.6	15.0	27.6	17.4	10.4	2.2	0.9	20.6	18.1	3.4
6.8	14.9	27.7	17.2	10.5	2.2	0.9	20.2	18.2	3.4
7.0	14.9	27.7	16.8	10.6	2.2	0.9	20.3	18.1	3.4
7.2	14.9	27.6	16.4	10.9	2.2	0.9	20.0	18.3	3.4
7.4	14.8	27.6	16.1	11.2	2.2	0.9	20.0	17.9	3.4
7.6	14.8	27.5	15.6	11.6	2.2	0.9	20.7	17.9	3.4
7.8	14.8	27.4	15.0	12.0	2.2	0.9	20.2	17.7	3.5
8.0	14.8	27.4	14.5	12.4	2.2	0.9	20.4	18.2	3.5
8.2	14.7	27.3	14.0	12.7	2.2	1.0	19.5	17.8	3.5
8.4	14.6	27.3	13.4	13.0	2.2	1.0	19.6	17.9	3.5
8.6	14.5	27.3	12.9	13.2	2.2	1.0	19.8	18.0	3.5
8.8	14.5	27.2	12.4	13.3	2.2	1.0	20.2	17.6	3.5
9.0	14.4	27.2	11.9	13.4	2.2	1.0	20.5	18.0	3.5
9.2	14.3	27.2	11.7	13.3	2.2	1.0	19.6	17.7	3.5
9.4	14.2	27.1	11.4	13.2	2.2	1.0	20.0	17.7	3.5
9.6	14.1	27.2	11.3	13.1	2.2	1.0	19.7	17.6	3.6
9.8	14.0	27.1	11.2	13.1	2.2	1.0	19.3	17.6	3.6
10.0	13.9	27.0	11.3	13.2	2.2	1.0	20.0	17.3	3.5
11.0	13.4	26.8	11.6	13.0	2.3	1.0	19.7	16.9	3.6
12.0	12.8	26.9	11.8	10.4	2.4	1.0	20.6	16.7	3.6
13.0	11.8	27.2	11.1	7.8	2.5	0.9	-	-	-
14.0	10.4	28.1	9.1	6.5	2.9	0.9	-	-	-
15.0	9.4	28.8	7.3	6.4	3.2	0.9	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +3V$ ,  $I_{DD} = 38mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	12.6	22.9	20.9	12.2	1.7	0.9	13.6	19.8	10.7
0.4	12.8	22.7	26.6	12.3	1.7	0.8	14.0	20.1	4.7
0.6	12.8	22.6	26.0	12.7	1.7	0.8	14.7	20.2	4.2
0.8	12.8	22.7	24.5	12.9	1.7	0.8	14.6	19.9	4.1
1.0	12.9	22.7	23.6	13.1	1.7	0.8	14.5	19.7	4.0
1.2	12.9	22.7	23.0	13.4	1.7	0.9	14.7	20.1	3.9
1.4	12.9	22.8	22.6	13.5	1.7	0.9	15.2	19.9	3.9
1.6	13.0	22.8	22.5	13.8	1.7	0.9	15.4	20.5	3.9
1.8	13.0	22.9	22.5	13.7	1.7	0.9	14.2	20.2	3.9
2.0	13.0	23.0	22.4	13.7	1.7	0.9	15.2	20.4	3.9
2.2	13.0	23.0	23.0	13.6	1.7	0.9	15.3	19.6	3.9
2.4	13.0	23.1	23.7	13.5	1.7	0.9	15.1	20.3	4.0
2.6	13.0	23.2	24.9	13.6	1.8	0.9	15.7	20.2	3.9
2.8	13.0	23.3	25.9	13.4	1.8	0.9	15.9	18.9	4.0
3.0	13.0	23.4	26.0	13.3	1.8	0.9	15.6	20.1	4.0
3.2	13.0	23.5	26.5	12.9	1.8	0.9	16.4	18.8	4.0
3.4	13.0	23.6	28.0	12.8	1.8	0.9	15.4	19.5	3.9
3.6	13.0	23.7	28.5	12.6	1.8	0.9	16.0	18.7	3.9
3.8	13.0	23.9	28.4	12.3	1.9	0.9	15.9	18.4	3.9
4.0	13.0	24.0	27.4	12.0	1.9	0.9	15.8	18.7	3.9
4.2	12.9	24.1	26.2	11.5	1.9	0.9	15.6	18.1	3.9
4.4	12.8	24.3	24.4	11.0	1.9	0.9	15.7	18.8	3.9
4.6	12.7	24.5	22.9	10.5	2.0	0.9	16.7	18.1	3.9
4.8	12.6	24.7	21.3	10.0	2.0	0.9	15.7	18.5	3.9
5.0	12.4	25.0	19.8	9.5	2.1	0.9	15.3	18.8	4.0
5.2	12.2	25.2	18.4	9.1	2.1	0.8	15.5	18.4	4.0
5.4	12.1	25.4	17.4	8.7	2.2	0.8	14.8	18.2	3.9
5.6	12.0	25.4	16.4	8.3	2.2	0.8	15.8	18.0	3.9
5.8	12.0	25.4	16.0	8.0	2.2	0.8	15.2	18.4	3.9
6.0	11.9	25.5	15.6	7.7	2.2	0.8	16.5	17.7	3.8
6.2	11.9	25.5	15.4	7.6	2.2	0.8	15.4	18.2	3.8
6.4	11.8	25.6	15.2	7.4	2.2	0.8	15.2	18.2	3.8
6.6	11.8	25.6	15.2	7.4	2.2	0.8	15.8	18.1	3.8
6.8	11.8	25.6	15.1	7.5	2.2	0.8	15.3	18.4	3.8
7.0	11.8	25.6	15.0	7.6	2.2	0.8	15.5	18.5	3.8
7.2	11.7	25.5	14.9	7.7	2.2	0.8	15.3	18.5	3.8
7.4	11.7	25.4	14.8	8.0	2.2	0.8	15.3	18.3	3.8
7.6	11.7	25.4	14.7	8.2	2.2	0.8	16.5	18.2	3.8
7.8	11.7	25.3	14.4	8.5	2.2	0.9	15.9	18.0	3.8
8.0	11.7	25.2	14.2	8.8	2.2	0.9	15.6	18.7	3.8
8.2	11.7	25.1	14.0	9.1	2.2	0.9	15.3	18.1	3.8
8.4	11.7	25.0	13.6	9.4	2.2	0.9	15.7	18.5	3.9
8.6	11.6	24.9	13.1	9.6	2.2	0.9	15.5	18.4	3.9
8.8	11.6	24.9	12.7	9.7	2.2	0.9	16.5	18.1	3.9
9.0	11.5	24.8	12.3	9.9	2.2	0.9	16.9	18.3	3.9
9.2	11.5	24.8	11.9	9.9	2.2	0.9	16.1	18.3	3.9
9.4	11.4	24.7	11.7	10.0	2.2	0.9	16.7	18.3	3.9
9.6	11.3	24.7	11.5	10.0	2.2	0.9	16.6	18.1	3.9
9.8	11.2	24.6	11.4	10.1	2.2	0.9	16.5	18.4	3.9
10.0	11.2	24.6	11.5	10.2	2.2	1.0	16.7	17.7	3.9
11.0	10.8	24.3	12.0	11.1	2.3	1.0	15.2	17.3	3.9
12.0	10.4	24.4	12.7	9.9	2.4	0.9	15.7	17.1	4.0
13.0	9.6	24.7	12.7	7.5	2.5	0.9	-	-	-
14.0	8.1	25.6	10.5	5.9	2.8	0.8	-	-	-
15.0	6.9	26.5	7.8	5.4	3.1	0.9	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +2V$ ,  $I_{DD} = 28mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	8.8	20.9	15.3	6.7	1.7	0.7	8.5	19.9	14.1
0.4	9.0	20.6	15.1	6.9	1.7	0.7	9.1	20.3	5.8
0.6	9.0	20.7	14.7	7.2	1.7	0.7	9.2	20.2	5.1
0.8	9.0	20.8	14.4	7.3	1.8	0.7	9.2	20.1	5.0
1.0	9.0	20.9	14.2	7.5	1.8	0.8	9.2	19.8	4.9
1.2	8.9	20.9	14.0	7.6	1.8	0.8	9.4	20.1	4.9
1.4	8.9	21.0	13.9	7.7	1.9	0.8	9.3	20.2	4.8
1.6	8.9	21.0	13.9	7.8	1.9	0.8	9.7	20.5	4.8
1.8	8.9	21.1	13.9	7.8	1.9	0.8	9.4	20.6	4.8
2.0	9.0	21.1	13.9	7.8	1.9	0.8	9.5	20.4	4.8
2.2	9.0	21.2	14.1	7.7	1.9	0.8	9.9	19.9	4.8
2.4	9.0	21.3	14.4	7.7	1.9	0.8	9.6	20.5	4.7
2.6	9.0	21.3	14.9	7.7	1.9	0.8	9.9	20.4	4.8
2.8	8.9	21.4	15.3	7.7	1.9	0.8	10.1	20.3	4.8
3.0	8.9	21.5	15.4	7.6	2.0	0.8	9.9	20.4	4.9
3.2	8.9	21.5	15.5	7.5	2.0	0.8	10.3	20.3	4.8
3.4	9.0	21.6	15.9	7.6	2.0	0.8	9.9	20.8	4.8
3.6	9.0	21.6	16.2	7.5	2.0	0.8	10.3	20.0	4.8
3.8	8.9	21.7	16.4	7.5	2.0	0.8	10.1	19.6	4.8
4.0	8.8	21.9	16.5	7.4	2.0	0.8	10.1	19.7	4.8
4.2	8.8	21.9	16.4	7.2	2.1	0.8	9.9	18.5	4.7
4.4	8.6	22.2	16.1	7.1	2.1	0.8	10.0	20.2	4.7
4.6	8.5	22.3	15.8	6.8	2.2	0.8	10.5	18.6	4.7
4.8	8.3	22.6	15.2	6.6	2.2	0.8	9.8	19.2	4.7
5.0	8.0	22.8	14.6	6.4	2.3	0.7	9.8	20.0	4.8
5.2	7.8	23.0	13.9	6.2	2.4	0.7	9.8	19.0	4.8
5.4	7.6	23.2	13.4	6.0	2.4	0.7	9.5	18.9	4.7
5.6	7.4	23.3	12.9	5.8	2.5	0.7	10.0	18.6	4.8
5.8	7.3	23.3	12.5	5.6	2.5	0.7	9.6	19.0	4.8
6.0	7.2	23.4	12.3	5.4	2.5	0.7	10.3	18.0	4.7
6.2	7.2	23.4	12.2	5.3	2.5	0.7	9.6	18.7	4.7
6.4	7.1	23.5	12.2	5.2	2.5	0.7	9.6	18.7	4.6
6.6	7.0	23.5	12.2	5.2	2.5	0.7	9.7	18.6	4.7
6.8	7.0	23.5	12.3	5.2	2.5	0.7	9.5	18.8	4.6
7.0	6.9	23.5	12.3	5.3	2.6	0.7	9.6	19.2	4.7
7.2	6.9	23.5	12.4	5.4	2.6	0.7	9.5	18.9	4.7
7.4	6.8	23.4	12.6	5.6	2.6	0.7	9.4	18.8	4.6
7.6	6.8	23.3	12.6	5.8	2.7	0.7	9.9	18.7	4.6
7.8	6.8	23.3	12.7	6.0	2.7	0.8	9.7	18.5	4.7
8.0	6.8	23.1	12.7	6.2	2.7	0.8	9.6	19.5	4.6
8.2	6.8	23.1	12.7	6.3	2.7	0.8	9.4	18.7	4.7
8.4	6.8	23.0	12.6	6.5	2.7	0.8	9.5	19.5	4.8
8.6	6.7	23.0	12.4	6.7	2.7	0.8	9.4	19.0	4.7
8.8	6.7	22.8	12.2	6.7	2.7	0.8	9.6	18.8	4.7
9.0	6.6	22.8	11.8	6.9	2.7	0.8	9.9	18.7	4.7
9.2	6.6	22.7	11.6	6.9	2.7	0.8	9.6	19.0	4.7
9.4	6.5	22.7	11.4	7.0	2.7	0.8	9.7	19.1	4.7
9.6	6.4	22.7	11.2	7.0	2.7	0.8	9.7	18.5	4.8
9.8	6.3	22.7	11.1	7.0	2.8	0.8	9.6	19.5	4.7
10.0	6.3	22.7	11.1	7.1	2.8	0.8	9.9	17.9	4.7
11.0	5.9	22.5	11.9	8.1	3.0	0.9	9.2	19.7	4.7
12.0	5.5	22.5	13.2	8.0	3.2	0.9	9.6	19.2	4.8
13.0	4.7	22.6	14.4	6.4	3.3	0.8	-	-	-
14.0	3.1	23.6	12.3	4.9	3.7	0.7	-	-	-
15.0	1.7	24.5	8.8	4.1	4.0	0.7	-	-	-



## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +1V$ ,  $I_{DD} = 9mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	8.2	19.4	10.0	6.2	1.5	0.7	12.0	19.1	18.1
0.4	8.2	19.4	10.3	6.3	1.6	0.7	12.1	19.9	6.2
0.6	8.1	19.4	10.2	6.5	1.6	0.7	12.0	19.9	5.1
0.8	8.0	19.5	10.1	6.6	1.6	0.7	12.1	19.7	4.8
1.0	8.0	19.6	10.0	6.8	1.7	0.7	12.0	19.3	4.7
1.2	7.9	19.7	10.0	6.9	1.7	0.7	12.2	19.8	4.6
1.4	7.9	19.8	10.0	7.0	1.7	0.7	12.2	19.7	4.6
1.6	7.9	19.8	10.0	7.1	1.7	0.8	12.3	20.1	4.6
1.8	7.8	19.8	10.1	7.0	1.8	0.8	12.2	20.3	4.6
2.0	7.8	19.9	10.2	7.1	1.8	0.8	12.5	20.0	4.6
2.2	7.8	19.9	10.4	7.0	1.8	0.8	12.9	19.6	4.6
2.4	7.8	19.9	10.7	7.0	1.8	0.8	12.7	20.1	4.6
2.6	7.8	19.9	11.1	7.1	1.8	0.8	12.9	20.0	4.6
2.8	7.7	20.0	11.5	7.1	1.8	0.8	13.0	20.0	4.6
3.0	7.7	20.1	11.7	7.1	1.9	0.8	13.1	20.1	4.6
3.2	7.6	20.1	11.7	7.0	1.9	0.8	13.4	20.2	4.6
3.4	7.6	20.1	11.9	7.1	1.9	0.8	13.4	20.5	4.5
3.6	7.6	20.2	12.1	7.0	1.9	0.8	13.8	20.2	4.5
3.8	7.5	20.3	12.2	7.0	1.9	0.8	13.8	19.9	4.5
4.0	7.4	20.4	12.2	6.9	2.0	0.8	13.7	19.8	4.5
4.2	7.2	20.6	12.2	6.8	2.0	0.8	13.9	19.6	4.5
4.4	7.0	20.7	12.0	6.6	2.1	0.8	14.2	20.2	4.5
4.6	6.8	20.9	11.8	6.5	2.1	0.8	14.5	19.9	4.5
4.8	6.6	21.2	11.4	6.3	2.2	0.7	14.5	20.2	4.5
5.0	6.2	21.5	11.1	6.1	2.3	0.7	14.7	20.6	4.5
5.2	5.9	21.8	10.7	5.9	2.4	0.7	14.8	19.9	4.5
5.4	5.6	22.1	10.5	5.7	2.5	0.7	14.8	19.6	4.5
5.6	5.5	22.2	10.2	5.5	2.6	0.7	15.5	19.6	4.6
5.8	5.3	22.3	10.1	5.3	2.6	0.7	15.5	20.0	4.5
6.0	5.2	22.5	10.0	5.1	2.6	0.7	16.3	19.6	4.5
6.2	5.1	22.5	10.1	5.0	2.7	0.7	16.2	19.7	4.5
6.4	4.9	22.7	10.1	4.8	2.7	0.7	16.1	19.7	4.5
6.6	4.8	22.8	10.2	4.8	2.8	0.7	16.5	19.4	4.7
6.8	4.7	22.9	10.4	4.8	2.9	0.7	16.5	20.0	4.5
7.0	4.6	23.0	10.5	4.9	3.0	0.7	16.9	20.1	4.7
7.2	4.5	23.1	10.7	5.0	3.1	0.7	17.1	20.0	4.6
7.4	4.4	23.1	10.9	5.1	3.2	0.7	17.4	19.6	4.6
7.6	4.3	23.2	11.0	5.3	3.2	0.7	17.8	19.6	4.6
7.8	4.2	23.2	11.1	5.4	3.3	0.7	17.6	19.7	4.8
8.0	4.2	23.2	11.2	5.6	3.4	0.7	17.4	20.0	4.7
8.2	4.1	23.3	11.2	5.7	3.5	0.8	16.0	20.2	4.8
8.4	4.1	23.3	11.1	5.9	3.6	0.8	16.4	20.1	4.8
8.6	4.0	23.4	11.0	6.0	3.6	0.8	15.8	20.2	4.8
8.8	3.9	23.4	10.9	6.0	3.7	0.8	16.1	19.8	4.8
9.0	3.8	23.5	10.7	6.1	3.8	0.8	16.9	19.7	4.8
9.2	3.7	23.5	10.5	6.1	3.8	0.8	15.6	20.3	4.9
9.4	3.6	23.5	10.4	6.1	3.9	0.8	15.9	19.7	4.9
9.6	3.5	23.6	10.4	6.1	4.0	0.8	15.7	20.0	5.0
9.8	3.3	23.6	10.4	6.2	4.0	0.8	15.4	19.8	5.0
10.0	3.2	23.7	10.5	6.2	4.2	0.8	16.1	19.1	5.0
11.0	2.7	23.8	11.5	7.1	4.8	0.9	14.6	20.5	5.3
12.0	2.2	23.8	12.9	7.2	5.2	0.8	15.2	20.2	5.4
13.0	1.2	23.9	13.6	5.9	5.4	0.8	-	-	-
14.0	-0.7	24.8	11.3	4.4	6.2	0.7	-	-	-
15.0	-2.5	25.4	8.5	3.7	6.7	0.7	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +0.8V$ ,  $I_{DD} = 1mA$  @ Temperature =  $-45^{\circ}C$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	2.6	18.3	7.0	3.9	1.8	0.6	7.2	18.9	19.8
0.4	2.4	18.4	7.1	4.0	1.9	0.6	7.3	19.6	7.7
0.6	2.3	18.5	7.1	4.2	2.0	0.6	7.3	19.7	6.7
0.8	2.1	18.6	7.1	4.3	2.1	0.7	6.9	19.5	6.6
1.0	2.0	18.7	7.1	4.4	2.1	0.7	6.7	19.0	6.3
1.2	1.8	18.8	7.2	4.5	2.2	0.7	6.6	19.7	6.4
1.4	1.6	18.9	7.2	4.6	2.3	0.7	6.5	19.4	6.3
1.6	1.5	18.9	7.3	4.6	2.4	0.7	6.4	19.9	6.5
1.8	1.3	19.0	7.5	4.6	2.4	0.7	6.4	20.1	6.4
2.0	1.2	19.0	7.6	4.6	2.5	0.7	6.3	19.9	6.6
2.2	1.0	19.1	7.8	4.5	2.5	0.7	6.7	19.3	6.5
2.4	0.8	19.2	8.0	4.5	2.6	0.7	6.3	20.0	6.8
2.6	0.6	19.2	8.4	4.5	2.7	0.7	6.1	19.9	6.8
2.8	0.4	19.3	8.8	4.5	2.8	0.7	6.0	19.8	6.8
3.0	0.1	19.5	8.9	4.4	2.9	0.7	6.0	19.9	7.0
3.2	0.0	19.5	9.0	4.4	3.0	0.7	6.8	20.0	7.0
3.4	-0.2	19.6	9.1	4.4	3.1	0.7	6.4	20.4	7.0
3.6	-0.5	19.7	9.2	4.4	3.2	0.7	6.8	20.0	7.0
3.8	-0.7	19.9	9.3	4.3	3.4	0.7	6.3	19.8	7.3
4.0	-1.1	20.1	9.4	4.3	3.6	0.7	6.3	19.6	7.3
4.2	-1.4	20.3	9.4	4.2	3.8	0.7	6.3	19.4	7.5
4.4	-1.8	20.6	9.4	4.2	4.0	0.7	6.3	20.0	7.6
4.6	-2.2	20.9	9.3	4.1	4.3	0.6	6.2	19.6	7.5
4.8	-2.7	21.3	9.1	4.0	4.7	0.6	6.2	20.0	7.8
5.0	-3.2	21.7	9.0	4.0	5.2	0.7	6.2	20.5	8.0
5.2	-3.7	22.1	8.9	4.0	5.7	0.7	6.2	19.7	8.1
5.4	-4.2	22.5	8.8	4.0	6.2	0.7	6.2	19.4	8.2
5.6	-4.5	22.7	8.7	3.8	6.5	0.6	6.2	19.3	8.6
5.8	-4.8	22.9	8.7	3.7	6.7	0.6	6.2	19.8	8.7
6.0	-5.0	23.1	8.8	3.6	6.9	0.6	6.1	19.3	8.9
6.2	-5.2	23.3	8.9	3.5	7.1	0.6	6.2	19.4	8.9
6.4	-5.5	23.5	9.1	3.4	7.5	0.6	6.2	19.4	8.7
6.6	-5.7	23.6	9.3	3.5	7.9	0.6	6.2	19.2	9.3
6.8	-5.9	23.8	9.5	3.5	8.4	0.6	6.1	19.9	8.7
7.0	-6.1	23.9	9.7	3.6	8.8	0.6	6.2	20.2	9.5
7.2	-6.3	24.2	9.9	3.7	9.4	0.6	6.1	20.1	9.7
7.4	-6.4	24.2	10.1	3.8	9.9	0.6	6.1	19.7	9.5
7.6	-6.6	24.4	10.3	3.9	10.5	0.6	6.1	19.5	9.3
7.8	-6.7	24.5	10.4	4.1	11.0	0.7	6.1	19.7	9.7
8.0	-6.8	24.5	10.5	4.2	11.4	0.7	6.0	20.2	9.8
8.2	-6.9	24.6	10.5	4.3	11.9	0.7	6.0	20.3	10.1
8.4	-6.9	24.7	10.5	4.4	12.3	0.7	6.0	20.2	10.3
8.6	-7.1	24.8	10.4	4.5	12.8	0.7	6.0	20.4	9.9
8.8	-7.2	24.9	10.3	4.6	13.1	0.7	6.0	20.1	10.3
9.0	-7.3	24.9	10.1	4.7	13.5	0.7	6.0	20.0	10.6
9.2	-7.4	25.0	10.1	4.7	13.8	0.7	5.9	20.6	10.4
9.4	-7.6	25.1	10.0	4.8	14.2	0.7	6.0	20.0	10.3
9.6	-7.6	25.1	10.0	4.8	14.5	0.7	5.9	20.2	10.6
9.8	-7.8	25.2	10.0	4.8	15.0	0.7	6.0	20.5	10.8
10.0	-7.9	25.3	10.2	4.9	15.5	0.7	6.0	19.7	10.8
11.0	-8.4	25.3	11.3	5.7	18.2	0.8	5.9	20.8	11.0
12.0	-8.9	24.9	12.8	5.9	19.4	0.8	6.0	20.0	11.2
13.0	-9.8	24.7	13.0	4.9	19.2	0.7	-	-	-
14.0	-11.6	25.4	10.5	3.8	21.0	0.6	-	-	-
15.0	-13.2	25.6	8.2	3.2	21.3	0.6	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +5V$ ,  $I_{DD} = 69mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	16.0	25.5	17.1	20.5	1.6	0.9	24.9	19.0	9.6
0.4	16.2	25.1	20.4	21.6	1.6	0.9	23.9	18.8	5.3
0.6	16.2	25.1	21.6	21.6	1.6	0.9	24.3	19.2	4.9
0.8	16.2	25.1	22.5	22.0	1.6	0.9	26.4	19.2	4.8
1.0	16.2	25.1	23.0	22.2	1.6	0.9	26.2	18.9	4.8
1.2	16.2	25.2	23.8	22.4	1.6	0.9	26.8	19.3	4.7
1.4	16.3	25.3	24.2	22.9	1.6	0.9	26.8	19.1	4.6
1.6	16.2	25.4	24.7	23.0	1.6	0.9	28.1	19.5	4.7
1.8	16.2	25.5	25.3	23.9	1.7	0.9	26.9	19.1	4.7
2.0	16.2	25.5	25.8	24.1	1.7	0.9	27.3	19.2	4.7
2.2	16.2	25.7	25.8	24.8	1.7	0.9	27.7	19.2	4.7
2.4	16.2	25.9	25.7	24.9	1.7	0.9	27.6	19.1	4.7
2.6	16.2	26.0	25.3	24.8	1.8	0.9	28.4	19.3	4.7
2.8	16.1	26.1	24.8	24.4	1.8	0.9	28.7	18.9	4.8
3.0	16.1	26.3	24.4	24.1	1.8	0.9	30.4	19.1	4.8
3.2	16.1	26.4	23.5	23.3	1.8	0.9	30.1	18.9	4.8
3.4	16.1	26.6	22.5	22.2	1.9	0.9	30.1	19.0	4.8
3.6	16.1	26.7	21.5	21.3	1.9	0.9	32.3	18.9	4.8
3.8	16.1	26.9	20.9	20.1	1.9	0.9	30.2	18.4	4.8
4.0	16.1	27.0	20.5	19.3	2.0	0.9	34.5	18.8	4.8
4.2	16.0	27.2	20.2	18.4	2.0	0.9	32.4	18.4	4.7
4.4	16.0	27.3	20.1	17.7	2.0	0.9	32.3	18.7	4.8
4.6	15.9	27.5	19.9	16.9	2.1	0.9	30.6	18.5	4.8
4.8	15.8	27.6	19.7	16.2	2.1	0.9	29.3	18.5	4.8
5.0	15.8	27.8	19.4	15.6	2.2	0.9	29.8	18.6	4.8
5.2	15.7	28.1	19.0	14.9	2.2	0.9	27.7	18.2	4.9
5.4	15.6	28.1	18.6	14.3	2.2	0.9	27.0	18.2	4.8
5.6	15.6	28.3	18.0	13.8	2.3	0.9	27.8	18.1	4.8
5.8	15.5	28.3	17.6	13.5	2.3	0.9	27.6	18.2	4.8
6.0	15.4	28.4	17.3	13.3	2.3	0.9	26.4	18.0	4.8
6.2	15.4	28.5	16.9	13.2	2.4	0.9	26.1	18.1	4.8
6.4	15.3	28.6	16.6	13.1	2.4	0.9	25.6	18.0	4.7
6.6	15.2	28.6	16.3	13.3	2.4	0.9	25.6	18.0	4.8
6.8	15.2	28.7	16.0	13.5	2.5	0.9	24.8	18.0	4.8
7.0	15.1	28.7	15.7	13.9	2.5	1.0	25.4	18.0	4.8
7.2	15.0	28.7	15.4	14.4	2.5	1.0	24.9	18.0	4.8
7.4	15.0	28.8	15.1	14.9	2.6	1.0	24.8	17.6	4.8
7.6	14.9	28.7	14.7	15.5	2.6	1.0	25.1	17.8	4.8
7.8	14.8	28.8	14.2	16.0	2.6	1.0	24.7	17.5	4.8
8.0	14.7	28.8	13.7	16.4	2.6	1.0	24.6	17.7	4.9
8.2	14.6	28.8	13.2	16.7	2.7	1.0	24.0	17.5	4.9
8.4	14.4	28.8	12.7	16.8	2.7	1.0	24.4	17.4	4.9
8.6	14.3	28.8	12.3	17.0	2.7	1.0	24.2	17.6	5.0
8.8	14.3	28.8	11.9	17.0	2.7	1.0	23.8	17.2	5.0
9.0	14.1	28.8	11.6	17.1	2.8	1.0	24.8	17.5	5.0
9.2	14.0	28.7	11.5	17.1	2.8	1.0	24.1	17.2	5.0
9.4	13.9	28.7	11.3	17.3	2.8	1.0	23.9	17.1	5.0
9.6	13.8	28.7	11.3	17.5	2.9	1.0	24.3	17.3	5.1
9.8	13.6	28.7	11.4	17.7	2.9	1.0	23.8	16.9	5.1
10.0	13.5	28.7	11.4	18.1	3.0	1.0	24.9	17.3	5.1
11.0	12.6	28.8	11.6	15.6	3.3	1.0	24.4	16.9	5.2
12.0	11.9	29.1	11.2	11.6	3.5	1.0	24.1	16.7	5.4
13.0	10.8	29.5	10.7	9.5	4.0	1.0	-	-	-
14.0	9.2	30.5	8.9	8.4	4.9	1.0	-	-	-
15.0	8.0	31.4	7.0	7.6	5.5	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +4V$ ,  $I_{DD} = 53mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	15.2	24.5	19.0	40.1	1.6	0.9	22.1	19.1	10.2
0.4	15.4	24.3	24.5	52.3	1.6	0.9	21.5	19.1	5.4
0.6	15.4	24.2	27.3	50.1	1.6	0.9	21.9	19.3	4.9
0.8	15.4	24.2	29.5	42.8	1.6	0.9	23.7	19.3	4.8
1.0	15.4	24.3	31.0	46.5	1.6	0.9	23.6	19.1	4.8
1.2	15.4	24.3	33.3	43.9	1.6	0.9	24.1	19.4	4.7
1.4	15.4	24.4	34.8	43.5	1.6	0.9	24.1	19.3	4.7
1.6	15.4	24.5	36.6	42.9	1.6	0.9	24.4	19.6	4.7
1.8	15.4	24.6	38.8	36.7	1.7	0.9	23.1	19.4	4.7
2.0	15.4	24.7	38.4	34.0	1.7	0.9	24.5	19.4	4.7
2.2	15.4	24.8	37.2	30.8	1.7	0.9	25.1	19.3	4.7
2.4	15.3	25.0	36.1	28.9	1.7	0.9	25.0	19.3	4.9
2.6	15.3	25.1	35.2	28.4	1.8	0.9	24.7	19.5	4.8
2.8	15.3	25.3	33.9	26.9	1.8	0.9	25.5	19.1	4.8
3.0	15.3	25.4	32.6	26.6	1.8	0.9	26.1	19.3	4.8
3.2	15.3	25.5	30.3	25.3	1.8	0.9	26.9	19.1	4.8
3.4	15.3	25.6	27.7	24.1	1.9	0.9	25.3	19.2	4.8
3.6	15.2	25.8	26.0	22.9	1.9	0.9	26.7	19.0	4.8
3.8	15.2	25.9	24.7	21.2	1.9	0.9	27.6	18.6	4.8
4.0	15.2	26.0	23.7	19.9	1.9	0.9	28.5	18.9	4.8
4.2	15.1	26.2	22.8	18.4	2.0	0.9	28.2	18.5	4.8
4.4	15.1	26.4	21.9	17.2	2.0	0.9	27.8	18.9	4.8
4.6	15.0	26.5	21.2	16.0	2.0	0.9	29.5	18.6	4.8
4.8	14.9	26.7	20.3	15.0	2.1	0.9	29.4	18.7	4.8
5.0	14.8	26.9	19.6	14.1	2.1	0.9	28.8	18.9	4.8
5.2	14.7	27.1	18.8	13.3	2.2	0.9	27.8	18.5	4.9
5.4	14.6	27.2	18.1	12.7	2.2	0.9	27.2	18.5	4.8
5.6	14.5	27.3	17.4	12.2	2.2	0.9	27.8	18.2	4.8
5.8	14.4	27.4	16.9	11.9	2.3	0.9	26.6	18.4	4.8
6.0	14.4	27.5	16.6	11.6	2.3	0.9	26.1	18.1	4.8
6.2	14.3	27.6	16.2	11.5	2.3	0.9	25.2	18.2	4.8
6.4	14.2	27.6	15.9	11.4	2.4	0.9	25.1	18.2	4.8
6.6	14.2	27.7	15.7	11.5	2.4	0.9	25.2	18.1	4.8
6.8	14.1	27.7	15.5	11.7	2.4	0.9	24.5	18.2	4.8
7.0	14.1	27.7	15.3	12.0	2.5	0.9	24.0	18.2	4.8
7.2	14.0	27.8	15.0	12.5	2.5	0.9	23.8	18.3	4.8
7.4	13.9	27.8	14.8	12.9	2.6	1.0	23.5	17.9	4.8
7.6	13.9	27.8	14.5	13.5	2.6	1.0	23.9	18.0	4.8
7.8	13.8	27.7	14.1	14.0	2.6	1.0	23.9	17.7	4.9
8.0	13.7	27.8	13.7	14.4	2.6	1.0	23.9	18.1	4.9
8.2	13.6	27.8	13.2	14.8	2.7	1.0	22.4	17.7	4.9
8.4	13.4	27.8	12.7	15.0	2.7	1.0	23.0	17.7	4.9
8.6	13.4	27.8	12.3	15.3	2.7	1.0	23.1	17.8	5.0
8.8	13.3	27.8	11.9	15.3	2.7	1.0	23.2	17.4	5.0
9.0	13.2	27.7	11.7	15.4	2.7	1.0	24.0	17.6	5.0
9.2	13.1	27.7	11.5	15.4	2.7	1.0	22.8	17.3	5.0
9.4	13.0	27.7	11.4	15.6	2.8	1.0	23.0	17.3	5.0
9.6	12.9	27.7	11.4	15.8	2.8	1.0	23.2	17.3	5.1
9.8	12.7	27.7	11.4	16.1	2.9	1.0	22.7	17.1	5.1
10.0	12.6	27.7	11.5	16.6	2.9	1.0	23.2	17.2	5.1
11.0	11.8	27.9	11.8	15.7	3.3	1.0	22.8	16.9	5.3
12.0	11.1	28.2	11.4	12.0	3.5	1.0	23.1	16.6	5.4
13.0	10.0	28.6	11.1	9.4	3.9	1.0	-	-	-
14.0	8.4	29.7	9.1	8.1	4.8	1.0	-	-	-
15.0	7.1	30.7	7.0	7.2	5.5	1.0	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +3V$ ,  $I_{DD} = 39mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	13.5	23.0	20.5	16.8	1.6	0.9	16.6	19.3	11.3
0.4	13.7	22.7	24.7	16.7	1.6	0.9	17.0	19.6	5.7
0.6	13.7	22.7	25.3	16.9	1.6	0.9	17.3	19.6	5.1
0.8	13.7	22.8	25.0	16.9	1.6	0.9	18.3	19.5	4.9
1.0	13.7	22.9	24.7	17.0	1.6	0.9	18.1	19.3	4.9
1.2	13.7	22.9	24.1	17.0	1.6	0.9	18.4	19.5	4.9
1.4	13.7	23.0	23.8	17.0	1.6	0.9	18.8	19.5	4.9
1.6	13.7	23.1	23.5	17.0	1.7	0.9	18.9	19.8	4.9
1.8	13.6	23.3	23.2	16.7	1.7	0.9	18.2	19.7	4.9
2.0	13.6	23.3	23.0	16.7	1.7	0.9	18.7	19.7	4.9
2.2	13.6	23.4	23.0	16.3	1.7	0.9	19.4	19.4	4.9
2.4	13.6	23.6	23.5	16.1	1.8	0.9	18.7	19.7	5.0
2.6	13.5	23.7	24.1	16.1	1.8	0.9	18.9	19.6	4.9
2.8	13.5	23.8	24.9	16.0	1.8	0.9	19.7	19.4	5.0
3.0	13.5	23.9	25.5	15.9	1.8	0.9	19.5	19.5	5.0
3.2	13.5	24.0	26.3	15.8	1.9	0.9	20.2	19.4	5.0
3.4	13.5	24.1	27.0	15.9	1.9	0.9	19.8	19.7	4.9
3.6	13.5	24.2	27.1	15.7	1.9	0.9	20.4	19.3	4.9
3.8	13.4	24.4	26.2	15.3	1.9	0.9	20.3	19.1	4.9
4.0	13.4	24.5	24.8	14.8	2.0	0.9	20.4	19.1	5.0
4.2	13.3	24.7	23.3	14.1	2.0	0.9	20.2	18.8	5.0
4.4	13.2	24.8	21.7	13.4	2.0	0.9	20.4	19.3	4.9
4.6	13.1	25.0	20.4	12.6	2.1	0.9	21.6	18.9	4.9
4.8	13.0	25.2	19.1	11.9	2.1	0.9	20.6	19.1	5.0
5.0	12.9	25.4	18.1	11.2	2.2	0.9	20.2	19.3	5.0
5.2	12.7	25.6	17.2	10.6	2.2	0.9	20.6	18.8	5.0
5.4	12.6	25.8	16.4	10.1	2.2	0.9	20.0	18.7	4.9
5.6	12.5	25.9	15.7	9.7	2.3	0.9	21.0	18.5	5.0
5.8	12.3	26.0	15.3	9.4	2.3	0.9	20.1	18.8	5.0
6.0	12.3	26.1	14.9	9.2	2.3	0.9	22.1	18.3	5.0
6.2	12.2	26.1	14.7	9.1	2.4	0.9	21.0	18.5	4.9
6.4	12.1	26.2	14.5	9.0	2.4	0.9	20.6	18.5	4.9
6.6	12.1	26.2	14.4	9.0	2.4	0.9	21.4	18.4	4.9
6.8	12.0	26.3	14.4	9.1	2.5	0.9	20.7	18.5	4.9
7.0	11.9	26.3	14.2	9.4	2.5	0.9	21.3	18.7	4.9
7.2	11.9	26.4	14.1	9.7	2.6	0.9	21.1	18.6	5.0
7.4	11.8	26.3	14.1	10.0	2.6	0.9	21.4	18.4	5.0
7.6	11.8	26.3	13.9	10.5	2.6	0.9	23.2	18.3	5.0
7.8	11.7	26.3	13.6	10.9	2.7	0.9	22.7	18.1	5.0
8.0	11.6	26.3	13.3	11.2	2.7	0.9	22.2	18.6	5.0
8.2	11.6	26.3	13.0	11.5	2.7	1.0	21.8	18.2	5.1
8.4	11.5	26.2	12.6	11.8	2.7	1.0	22.2	18.3	5.1
8.6	11.5	26.2	12.2	11.9	2.7	1.0	21.7	18.2	5.1
8.8	11.4	26.2	11.9	12.0	2.7	1.0	23.0	18.0	5.1
9.0	11.3	26.2	11.7	12.1	2.7	1.0	22.7	18.0	5.1
9.2	11.2	26.2	11.5	12.2	2.8	1.0	21.5	17.9	5.2
9.4	11.1	26.2	11.4	12.3	2.8	1.0	21.7	17.8	5.2
9.6	11.0	26.2	11.4	12.5	2.8	1.0	21.3	17.7	5.2
9.8	10.9	26.2	11.5	12.8	2.9	1.0	20.7	17.8	5.2
10.0	10.8	26.2	11.5	13.2	2.9	1.0	21.0	17.4	5.3
11.0	10.1	26.4	12.0	13.9	3.3	1.0	19.6	17.1	5.5
12.0	9.5	26.6	11.8	11.5	3.5	1.0	19.7	16.9	5.6
13.0	8.5	27.0	11.8	8.9	3.9	0.9	-	-	-
14.0	6.9	28.2	9.6	7.4	4.8	0.9	-	-	-
15.0	5.4	29.2	7.2	6.4	5.4	0.9	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +2V$ ,  $I_{DD} = 27mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	10.5	21.1	15.4	9.0	1.6	0.8	10.4	19.2	13.7
0.4	10.7	20.8	15.2	9.1	1.6	0.8	11.4	19.6	6.4
0.6	10.7	20.9	15.1	9.2	1.6	0.8	11.5	19.5	5.7
0.8	10.7	20.9	14.9	9.3	1.6	0.8	11.6	19.4	5.6
1.0	10.6	21.0	14.8	9.4	1.7	0.8	11.5	19.2	5.5
1.2	10.6	21.1	14.6	9.4	1.7	0.8	11.8	19.3	5.4
1.4	10.5	21.2	14.6	9.5	1.7	0.8	12.2	19.4	5.4
1.6	10.5	21.3	14.5	9.6	1.7	0.8	12.4	19.7	5.4
1.8	10.4	21.5	14.5	9.5	1.8	0.8	12.1	19.7	5.4
2.0	10.4	21.6	14.5	9.5	1.8	0.8	12.2	19.6	5.4
2.2	10.3	21.7	14.6	9.4	1.8	0.8	12.9	19.2	5.5
2.4	10.3	21.8	14.9	9.4	1.8	0.8	12.2	19.6	5.5
2.6	10.3	21.8	15.2	9.4	1.9	0.8	12.6	19.5	5.5
2.8	10.3	21.9	15.5	9.4	1.9	0.8	12.9	19.5	5.5
3.0	10.3	22.0	15.8	9.4	1.9	0.8	12.7	19.5	5.5
3.2	10.3	22.1	16.1	9.4	1.9	0.8	13.2	19.5	5.5
3.4	10.3	22.1	16.5	9.5	2.0	0.8	12.8	19.9	5.5
3.6	10.2	22.2	16.9	9.6	2.0	0.8	13.3	19.4	5.5
3.8	10.2	22.4	17.0	9.5	2.0	0.8	13.1	19.3	5.5
4.0	10.1	22.5	16.9	9.4	2.1	0.8	13.0	19.2	5.5
4.2	10.0	22.6	16.6	9.1	2.1	0.8	12.8	19.0	5.5
4.4	9.9	22.8	16.1	8.8	2.1	0.8	13.0	19.5	5.4
4.6	9.7	23.0	15.5	8.5	2.2	0.8	13.6	19.0	5.4
4.8	9.5	23.2	14.9	8.1	2.2	0.8	12.8	19.4	5.5
5.0	9.3	23.5	14.3	7.8	2.3	0.8	12.5	19.7	5.5
5.2	9.1	23.7	13.7	7.4	2.4	0.8	12.6	19.2	5.5
5.4	8.9	23.9	13.2	7.1	2.4	0.8	12.3	19.0	5.5
5.6	8.7	24.0	12.8	6.8	2.5	0.8	13.0	18.9	5.5
5.8	8.6	24.1	12.6	6.7	2.5	0.8	12.5	19.1	5.5
6.0	8.5	24.2	12.4	6.5	2.6	0.8	13.4	18.6	5.5
6.2	8.4	24.3	12.3	6.4	2.6	0.8	12.6	18.8	5.5
6.4	8.2	24.4	12.3	6.4	2.7	0.8	12.4	18.9	5.5
6.6	8.2	24.5	12.3	6.4	2.7	0.8	12.7	18.8	5.5
6.8	8.1	24.5	12.4	6.5	2.8	0.8	12.3	19.0	5.5
7.0	8.0	24.6	12.4	6.6	2.8	0.8	12.5	19.2	5.5
7.2	7.9	24.6	12.5	6.8	2.9	0.8	12.3	19.1	5.6
7.4	7.9	24.6	12.6	7.1	3.0	0.8	12.3	18.9	5.6
7.6	7.8	24.5	12.6	7.4	3.0	0.8	13.0	18.8	5.6
7.8	7.7	24.6	12.5	7.6	3.1	0.8	12.7	18.8	5.6
8.0	7.7	24.5	12.5	7.9	3.1	0.9	12.6	19.2	5.6
8.2	7.6	24.5	12.3	8.1	3.1	0.9	12.3	19.0	5.7
8.4	7.6	24.5	12.1	8.2	3.1	0.9	12.5	19.0	5.7
8.6	7.5	24.5	11.8	8.3	3.2	0.9	12.4	18.9	5.7
8.8	7.5	24.5	11.7	8.3	3.2	0.9	12.9	18.7	5.7
9.0	7.4	24.4	11.5	8.4	3.2	0.9	13.2	18.6	5.8
9.2	7.3	24.5	11.4	8.5	3.2	0.9	12.7	18.8	5.7
9.4	7.2	24.4	11.3	8.6	3.3	0.9	13.1	18.4	5.8
9.6	7.2	24.4	11.3	8.7	3.3	0.9	13.0	18.2	5.9
9.8	7.1	24.4	11.4	8.9	3.4	0.9	13.0	18.5	5.8
10.0	7.0	24.4	11.5	9.1	3.5	0.9	13.3	17.8	5.9
11.0	6.3	24.6	12.2	10.3	3.9	1.0	12.3	18.5	6.1
12.0	5.8	24.7	12.6	9.4	4.1	0.9	12.7	18.3	6.3
13.0	4.8	25.0	13.1	7.4	4.5	0.9	-	-	-
14.0	3.2	26.0	10.8	6.1	5.4	0.8	-	-	-
15.0	1.6	26.9	7.9	5.2	6.0	0.8	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

- Input Return Loss = -S11 (dB)
- Gain(Power Gain) = S21 (dB)
- Reverse Isolation = -S12 (dB)
- Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +1V$ ,  $I_{DD} = 12mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	8.1	19.3	9.7	6.3	1.5	0.7	12.1	18.5	16.8
0.4	8.0	19.2	9.8	6.4	1.6	0.7	12.5	19.2	7.1
0.6	8.0	19.3	9.8	6.6	1.6	0.7	12.4	19.2	6.0
0.8	7.9	19.4	9.7	6.7	1.6	0.7	12.6	19.0	5.9
1.0	7.8	19.5	9.7	6.8	1.7	0.7	12.3	18.6	5.8
1.2	7.7	19.7	9.6	7.0	1.7	0.8	12.7	19.0	5.8
1.4	7.6	19.8	9.7	7.1	1.8	0.8	12.7	18.9	5.8
1.6	7.6	19.8	9.8	7.2	1.8	0.8	12.8	19.3	5.9
1.8	7.5	20.0	9.9	7.2	1.8	0.8	12.7	19.4	5.9
2.0	7.5	20.0	10.0	7.2	1.8	0.8	13.0	19.2	5.9
2.2	7.4	20.1	10.2	7.1	1.9	0.8	13.4	18.8	5.9
2.4	7.4	20.1	10.4	7.1	1.9	0.8	13.1	19.2	5.9
2.6	7.3	20.2	10.7	7.0	1.9	0.8	13.5	19.2	5.9
2.8	7.3	20.2	11.0	7.0	1.9	0.8	13.5	19.1	5.9
3.0	7.2	20.4	11.2	7.0	2.0	0.8	13.6	19.2	5.9
3.2	7.2	20.4	11.4	7.0	2.0	0.8	14.0	19.3	5.9
3.4	7.2	20.5	11.6	7.0	2.0	0.8	13.9	19.6	5.9
3.6	7.1	20.6	11.9	7.0	2.1	0.8	14.4	19.3	5.9
3.8	7.0	20.7	12.0	7.0	2.1	0.8	14.4	19.1	5.9
4.0	6.9	20.8	12.0	7.0	2.2	0.8	14.3	19.0	5.9
4.2	6.7	21.0	11.9	6.9	2.2	0.8	14.4	18.9	5.9
4.4	6.5	21.2	11.7	6.7	2.3	0.8	14.9	19.4	5.9
4.6	6.2	21.5	11.5	6.5	2.4	0.8	15.2	19.1	5.9
4.8	6.0	21.7	11.2	6.3	2.5	0.8	15.2	19.4	5.9
5.0	5.6	22.0	10.9	6.1	2.6	0.8	15.6	19.7	6.1
5.2	5.3	22.4	10.6	5.9	2.8	0.8	15.8	19.0	6.0
5.4	5.1	22.6	10.5	5.7	2.9	0.7	16.1	18.8	6.0
5.6	4.9	22.8	10.3	5.5	2.9	0.7	16.9	18.7	6.1
5.8	4.7	22.9	10.3	5.3	3.0	0.7	17.2	19.0	6.1
6.0	4.5	23.1	10.3	5.2	3.1	0.7	17.6	18.7	6.2
6.2	4.3	23.3	10.3	5.0	3.2	0.7	17.9	18.7	6.1
6.4	4.2	23.5	10.4	5.0	3.3	0.7	18.2	18.7	6.2
6.6	4.0	23.6	10.5	5.0	3.4	0.7	18.7	18.6	6.2
6.8	3.9	23.7	10.7	5.0	3.5	0.7	18.5	19.0	6.2
7.0	3.8	23.8	10.8	5.1	3.6	0.7	18.8	19.0	6.3
7.2	3.6	23.9	11.0	5.2	3.8	0.7	17.6	19.0	6.4
7.4	3.6	24.0	11.2	5.3	3.9	0.7	16.8	18.6	6.3
7.6	3.5	24.0	11.3	5.5	4.0	0.7	19.1	18.6	6.3
7.8	3.4	24.0	11.4	5.7	4.2	0.8	17.5	18.7	6.4
8.0	3.3	24.1	11.5	5.9	4.3	0.8	16.9	18.9	6.5
8.2	3.2	24.1	11.5	6.0	4.4	0.8	15.4	19.1	6.6
8.4	3.1	24.2	11.4	6.2	4.5	0.8	15.5	18.8	6.6
8.6	3.0	24.2	11.3	6.3	4.6	0.8	15.3	19.0	6.6
8.8	2.9	24.3	11.2	6.3	4.7	0.8	15.7	18.7	6.7
9.0	2.8	24.3	11.2	6.5	4.8	0.8	16.0	18.6	6.8
9.2	2.7	24.3	11.1	6.5	4.9	0.8	14.7	19.1	6.8
9.4	2.6	24.3	11.2	6.6	5.0	0.8	14.8	18.5	6.8
9.6	2.5	24.3	11.3	6.6	5.1	0.8	14.5	18.6	6.9
9.8	2.4	24.4	11.4	6.8	5.2	0.8	14.2	18.6	7.0
10.0	2.3	24.4	11.6	6.9	5.4	0.8	14.6	18.1	7.0
11.0	1.6	24.6	12.5	7.8	6.4	0.9	12.0	18.7	7.3
12.0	0.9	24.5	13.5	7.7	6.8	0.9	12.6	18.3	7.7
13.0	-0.3	24.6	14.4	6.4	7.4	0.8	-	-	-
14.0	-2.1	25.5	11.8	5.2	8.8	0.7	-	-	-
15.0	-4.0	26.1	8.8	4.3	9.8	0.7	-	-	-

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

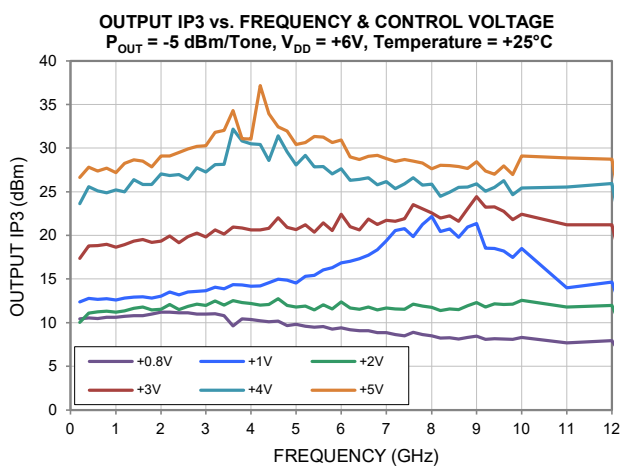
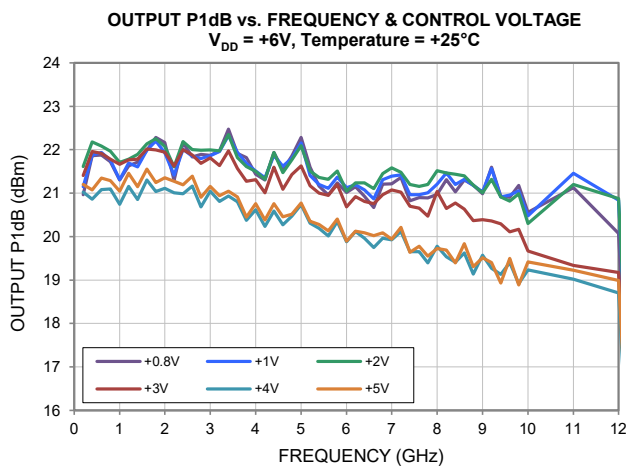
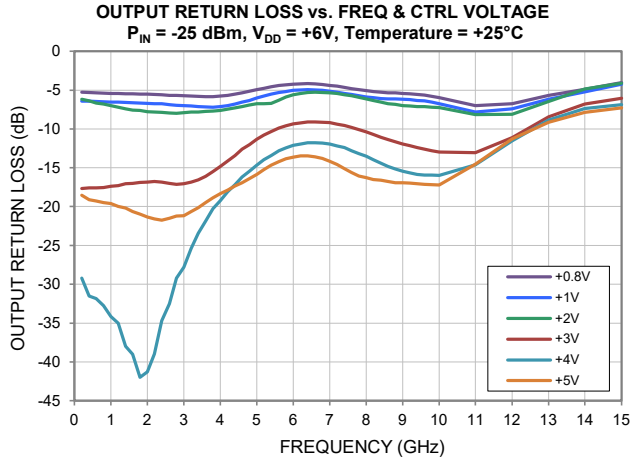
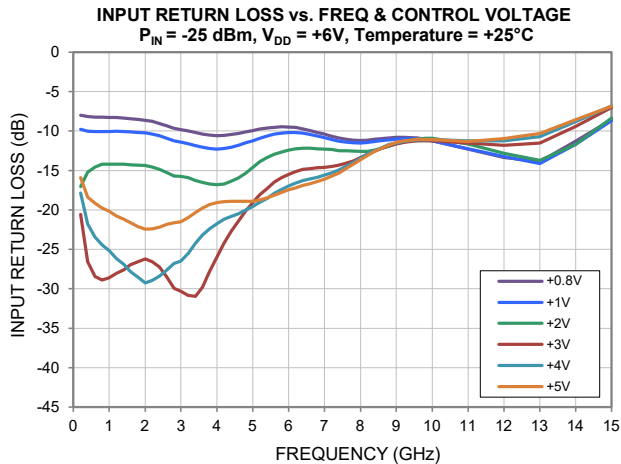
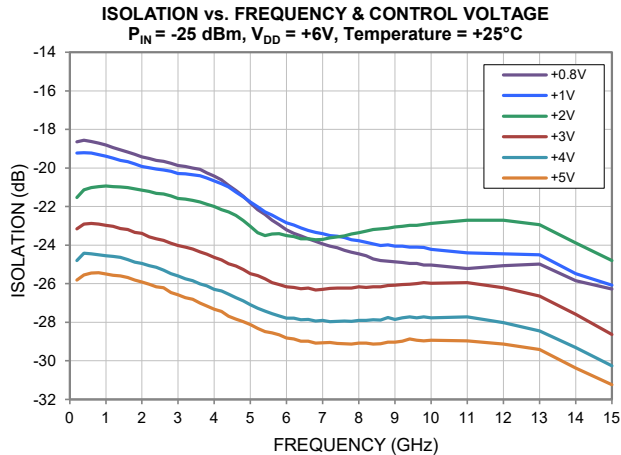
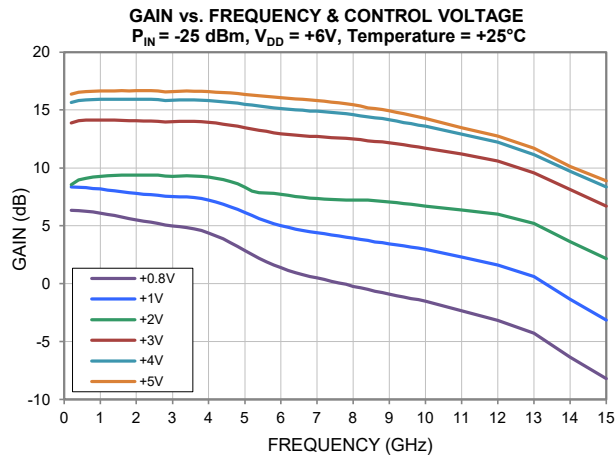
Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +5V$ ,  $V_C = +0.8V$ ,  $I_{DD} = 5mA$  @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
0.2	6.8	18.7	8.1	5.6	1.5	0.7	11.9	18.3	16.7
0.4	6.7	18.7	8.2	5.6	1.6	0.7	12.2	19.0	7.2
0.6	6.7	18.8	8.3	5.7	1.6	0.7	12.1	19.1	6.1
0.8	6.6	18.9	8.3	5.8	1.6	0.7	12.3	18.9	6.0
1.0	6.5	19.0	8.3	6.0	1.7	0.7	12.4	18.4	6.0
1.2	6.3	19.1	8.3	6.1	1.7	0.7	12.6	18.9	6.0
1.4	6.2	19.3	8.4	6.1	1.8	0.7	12.6	18.8	5.9
1.6	6.1	19.4	8.4	6.2	1.8	0.7	12.6	19.2	6.0
1.8	6.0	19.5	8.6	6.2	1.9	0.8	12.9	19.4	6.0
2.0	5.9	19.6	8.7	6.3	1.9	0.8	13.3	19.1	6.0
2.2	5.8	19.7	8.9	6.2	2.0	0.8	13.4	18.6	6.1
2.4	5.7	19.8	9.1	6.1	2.0	0.7	13.8	19.2	6.1
2.6	5.6	19.8	9.4	6.1	2.0	0.7	13.9	19.0	6.1
2.8	5.6	19.9	9.7	6.1	2.1	0.7	13.9	19.0	6.2
3.0	5.5	20.0	9.9	6.0	2.1	0.7	14.6	19.1	6.2
3.2	5.4	20.1	10.1	6.0	2.2	0.7	14.5	19.2	6.2
3.4	5.3	20.1	10.3	6.1	2.2	0.7	15.0	19.6	6.2
3.6	5.2	20.3	10.5	6.1	2.3	0.7	14.7	19.2	6.2
3.8	5.1	20.4	10.6	6.1	2.4	0.7	14.0	19.0	6.2
4.0	4.9	20.6	10.7	6.0	2.4	0.7	13.9	18.8	6.2
4.2	4.6	20.8	10.6	5.9	2.5	0.7	13.2	18.7	6.3
4.4	4.4	21.1	10.5	5.8	2.7	0.7	13.0	19.3	6.3
4.6	4.1	21.4	10.3	5.6	2.8	0.7	13.1	19.0	6.3
4.8	3.7	21.7	10.1	5.4	2.9	0.7	12.1	19.3	6.4
5.0	3.4	22.0	9.9	5.3	3.1	0.7	11.8	19.6	6.5
5.2	3.0	22.4	9.8	5.1	3.3	0.7	11.5	18.9	6.5
5.4	2.7	22.7	9.7	4.9	3.5	0.7	11.0	18.6	6.6
5.6	2.4	22.9	9.6	4.8	3.6	0.7	11.3	18.5	6.7
5.8	2.2	23.1	9.6	4.7	3.7	0.7	10.6	18.8	6.9
6.0	1.9	23.3	9.7	4.6	3.9	0.7	11.1	18.5	6.8
6.2	1.7	23.5	9.8	4.5	4.0	0.7	10.4	18.6	6.8
6.4	1.5	23.7	9.9	4.4	4.2	0.7	10.1	18.5	6.9
6.6	1.3	23.9	10.1	4.4	4.4	0.7	10.1	18.4	7.0
6.8	1.1	24.0	10.3	4.5	4.6	0.7	9.6	18.9	6.9
7.0	1.0	24.2	10.5	4.6	4.9	0.7	9.7	19.0	7.2
7.2	0.8	24.3	10.7	4.7	5.1	0.7	9.3	19.0	7.1
7.4	0.7	24.4	10.9	4.9	5.4	0.7	9.1	18.6	7.2
7.6	0.6	24.5	11.0	5.1	5.6	0.7	9.8	18.6	7.3
7.8	0.4	24.6	11.2	5.3	5.9	0.7	9.3	18.7	7.3
8.0	0.3	24.6	11.3	5.4	6.1	0.7	9.1	18.9	7.4
8.2	0.2	24.7	11.3	5.5	6.3	0.8	8.7	19.1	7.5
8.4	0.1	24.7	11.2	5.7	6.4	0.8	8.8	18.8	7.8
8.6	0.0	24.8	11.1	5.8	6.6	0.8	8.7	19.1	7.7
8.8	-0.2	24.8	11.1	5.8	6.8	0.8	8.9	18.9	7.7
9.0	-0.3	24.9	11.0	5.9	7.0	0.8	9.2	18.8	7.8
9.2	-0.4	24.9	11.0	5.9	7.1	0.8	8.6	19.2	7.9
9.4	-0.5	24.9	11.1	6.0	7.3	0.8	8.7	18.6	8.0
9.6	-0.6	25.0	11.2	6.1	7.5	0.8	8.8	18.6	8.1
9.8	-0.8	25.0	11.4	6.2	7.7	0.8	8.6	18.8	8.2
10.0	-0.9	25.1	11.6	6.3	8.0	0.8	9.0	18.3	8.3
11.0	-1.8	25.3	12.6	7.3	9.8	0.9	8.2	18.7	8.8
12.0	-2.5	25.1	13.6	7.2	10.5	0.8	8.6	17.7	9.2
13.0	-3.8	25.0	14.3	6.0	11.3	0.8	-	-	-
14.0	-5.7	25.8	11.5	4.9	13.6	0.7	-	-	-
15.0	-7.6	26.2	8.7	4.1	14.9	0.7	-	-	-

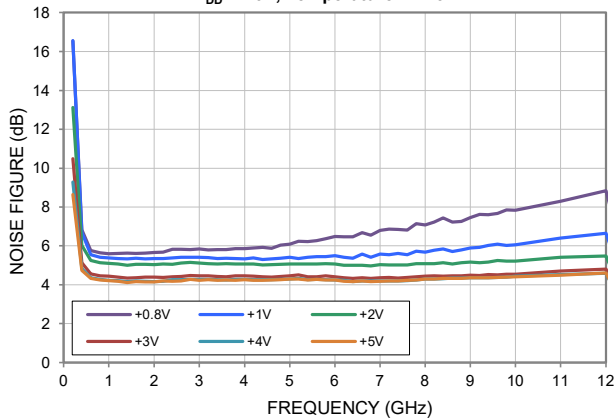


## Typical Performance Curves

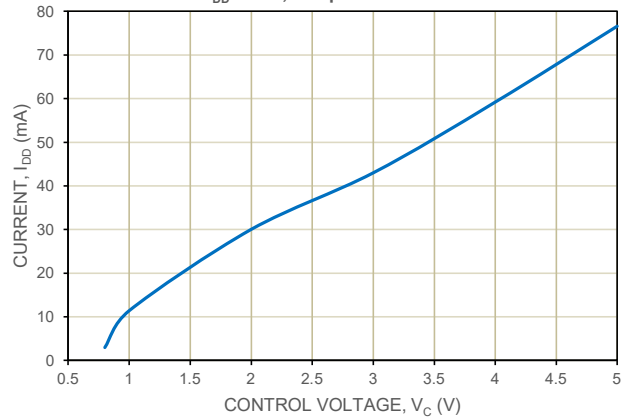


## Typical Performance Curves

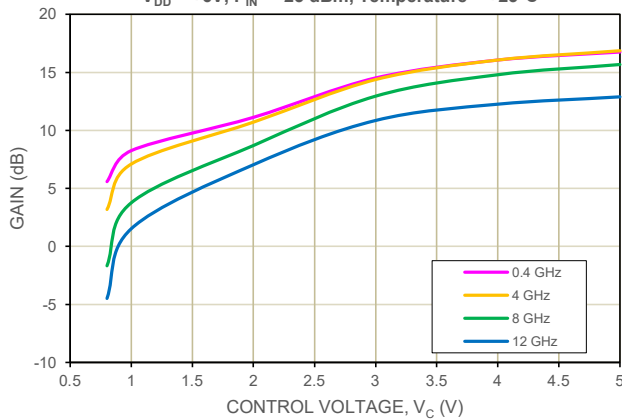
**NOISE FIGURE vs. FREQUENCY & CONTROL VOLTAGE**  
 $V_{DD} = +6V$ , Temperature = +25°C



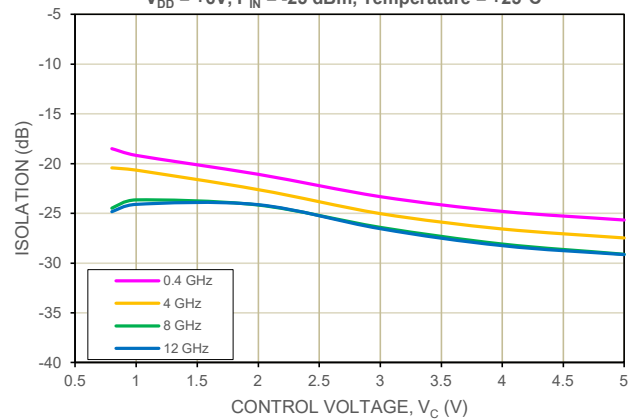
**CURRENT,  $I_{DD}$ , vs. CONTROL VOLTAGE**  
 $V_{DD} = +6V$ , Temperature = +25°C



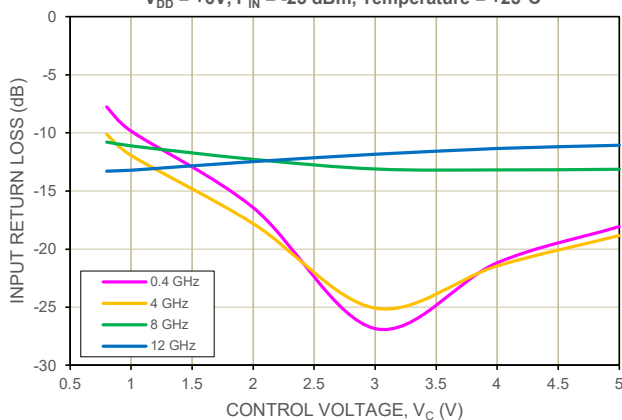
**GAIN vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +6V$ ,  $P_{IN} = -25$  dBm, Temperature = +25°C



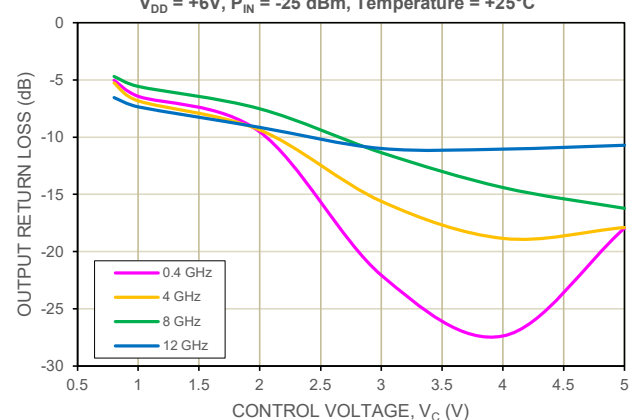
**ISOLATION vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +6V$ ,  $P_{IN} = -25$  dBm, Temperature = +25°C



**INPUT RETURN LOSS vs. CONTROL VOLTAGE & FREQ**  
 $V_{DD} = +6V$ ,  $P_{IN} = -25$  dBm, Temperature = +25°C

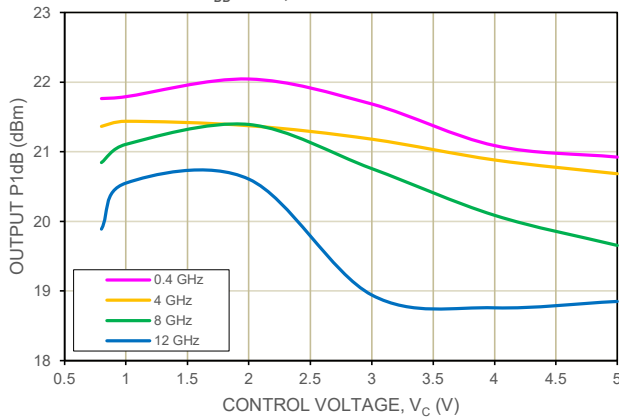


**OUTPUT RETURN LOSS vs. CONTROL VOLTAGE & FREQ**  
 $V_{DD} = +6V$ ,  $P_{IN} = -25$  dBm, Temperature = +25°C

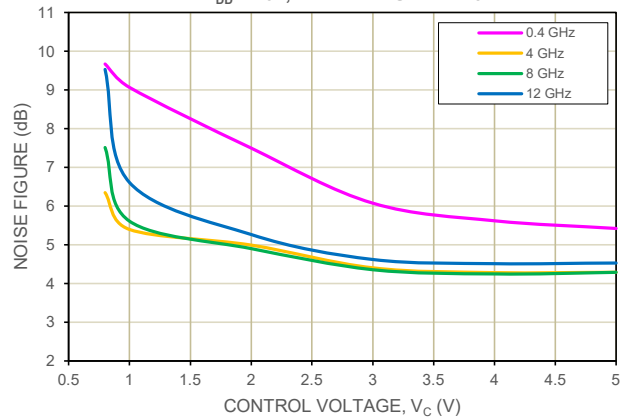


## Typical Performance Curves

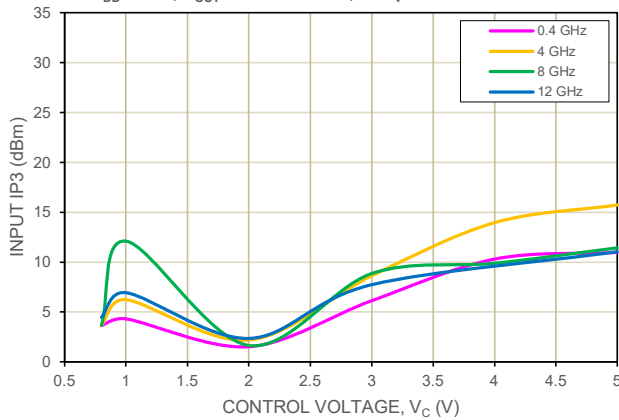
**OUTPUT P1dB vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +6V$ , TEMPERATURE =  $+25^{\circ}C$



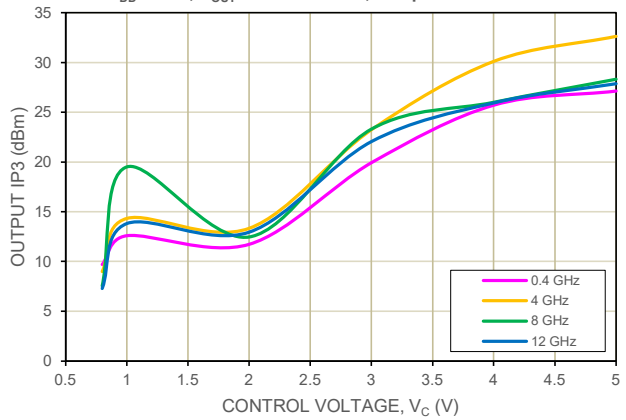
**NOISE FIGURE vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +6V$ , TEMPERATURE =  $+25^{\circ}C$



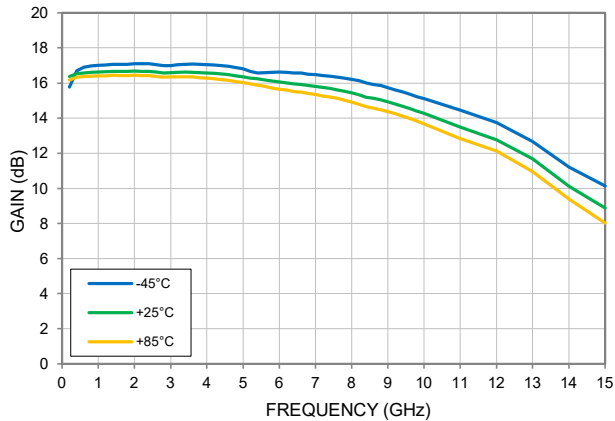
**INPUT IP3 vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +6V$ ,  $P_{OUT} = -5$  dBm/Tone, Temperature =  $+25^{\circ}C$



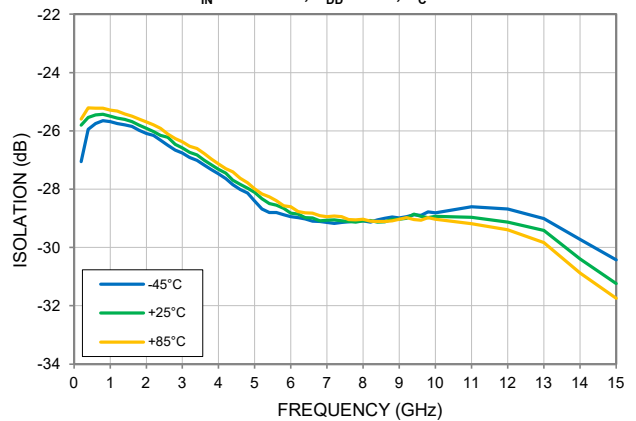
**OUTPUT IP3 vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +6V$ ,  $P_{OUT} = -5$  dBm/Tone, Temperature =  $+25^{\circ}C$



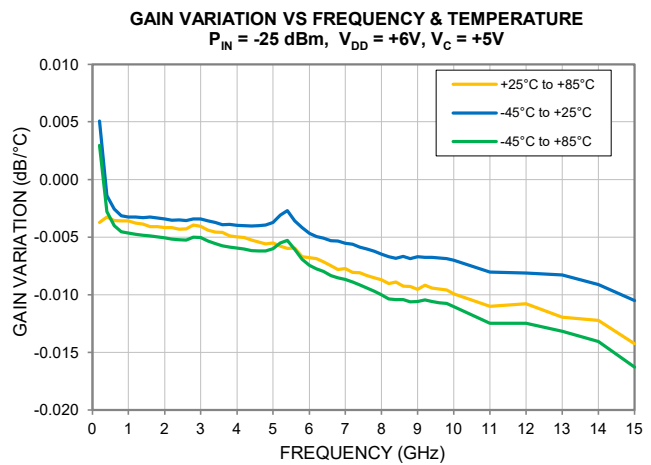
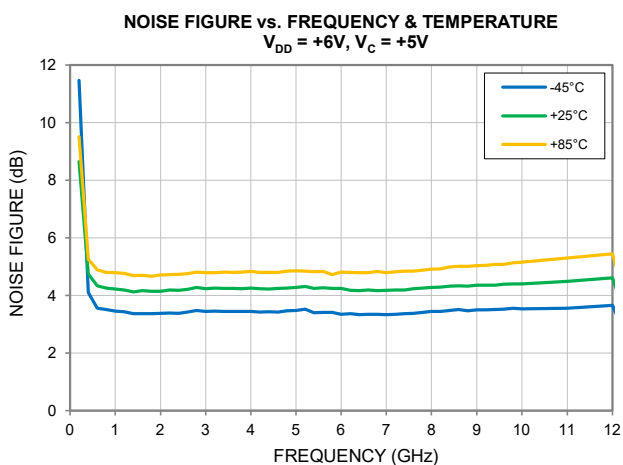
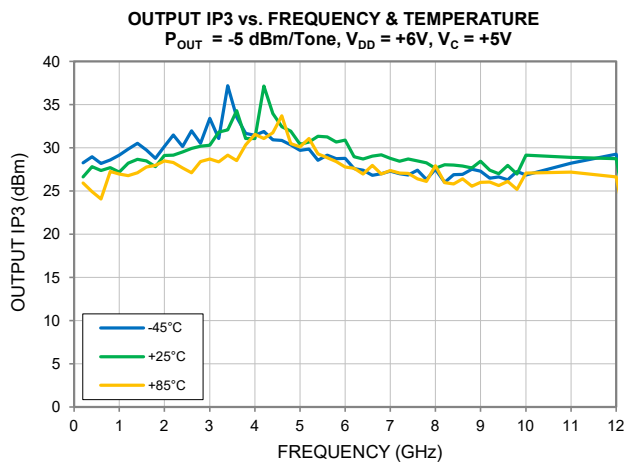
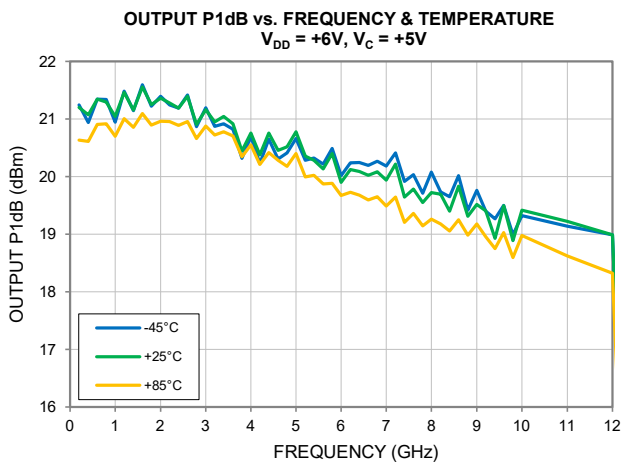
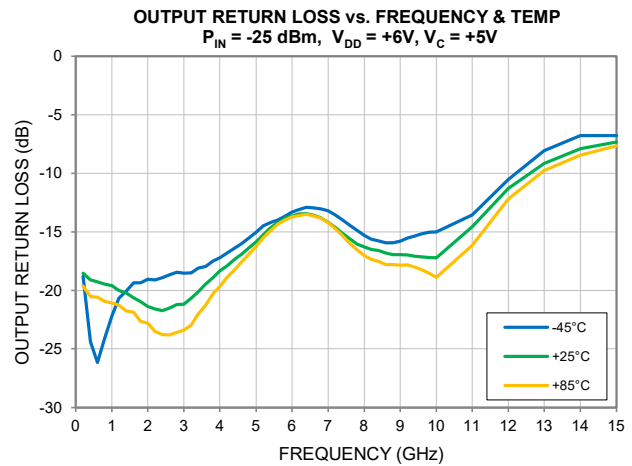
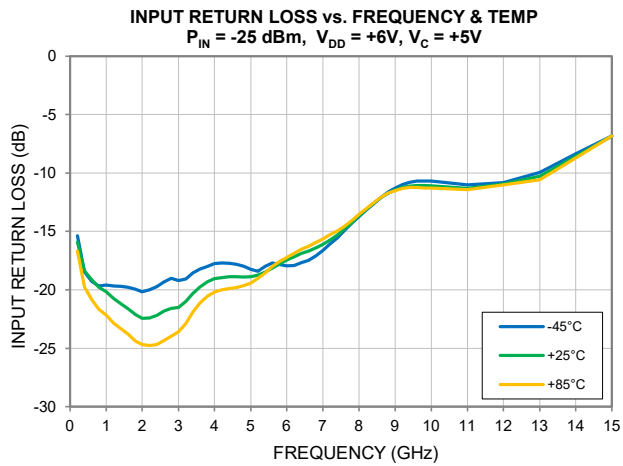
**GAIN vs. FREQUENCY & TEMPERATURE**  
 $P_{IN} = -25$  dBm,  $V_{DD} = +6V$ ,  $V_C = +5V$



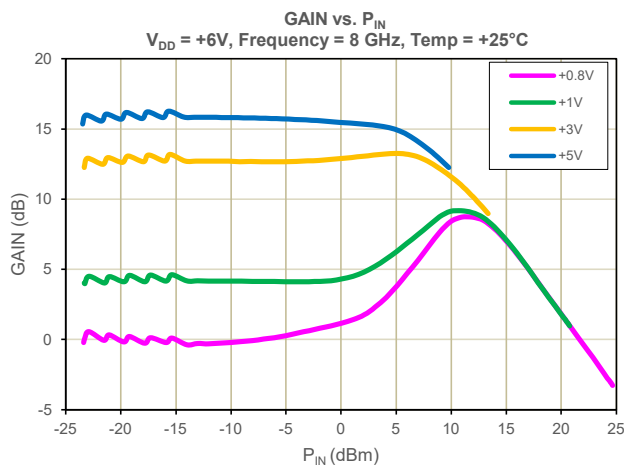
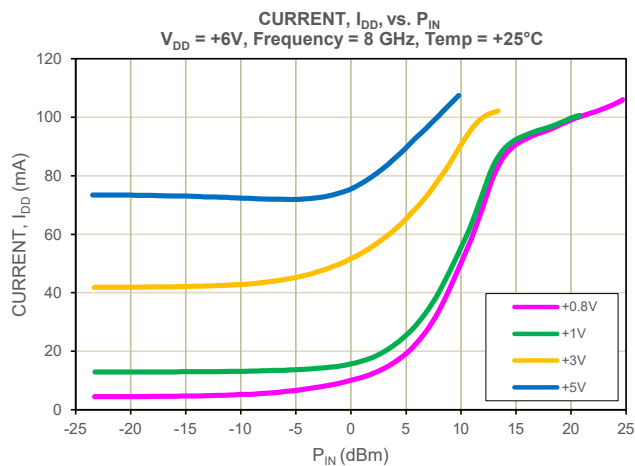
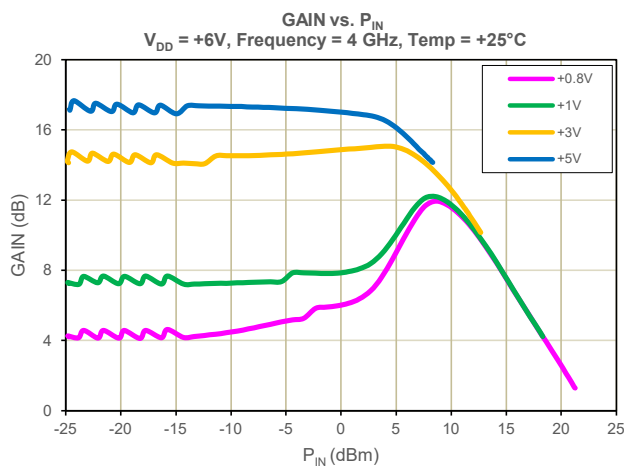
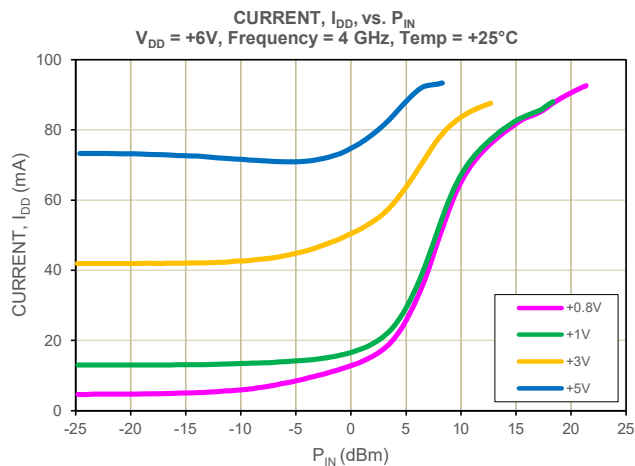
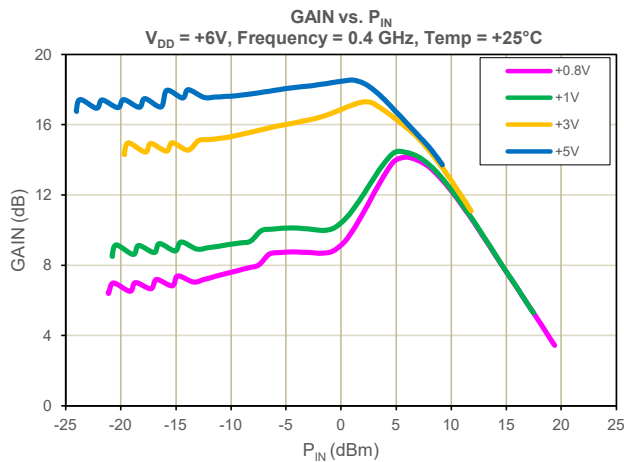
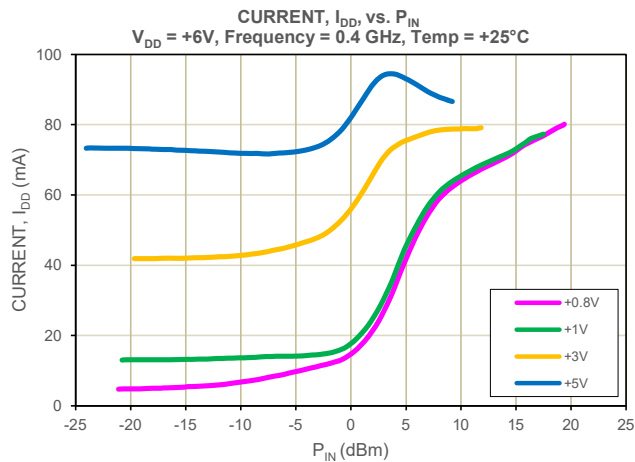
**ISOLATION vs. FREQUENCY & TEMPERATURE**  
 $P_{IN} = -25$  dBm,  $V_{DD} = +6V$ ,  $V_C = +5V$



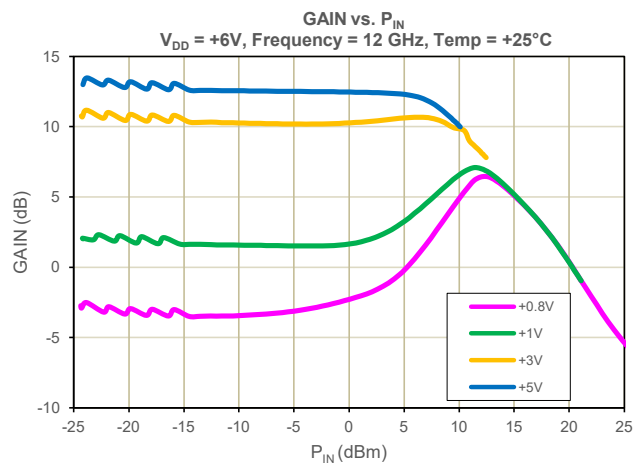
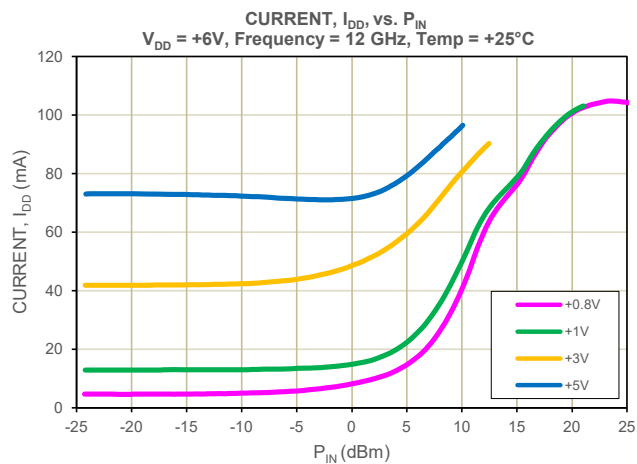
## Typical Performance Curves



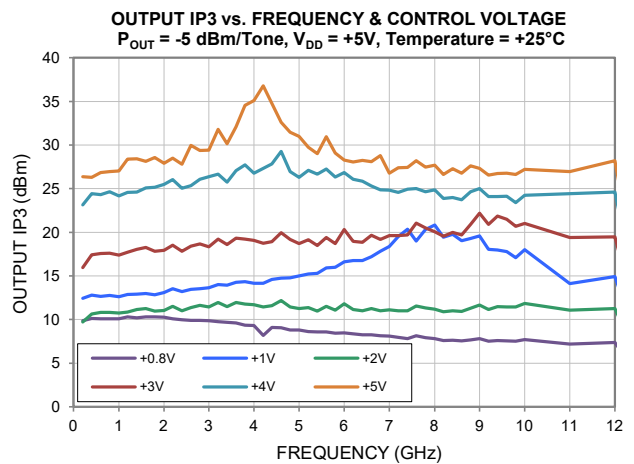
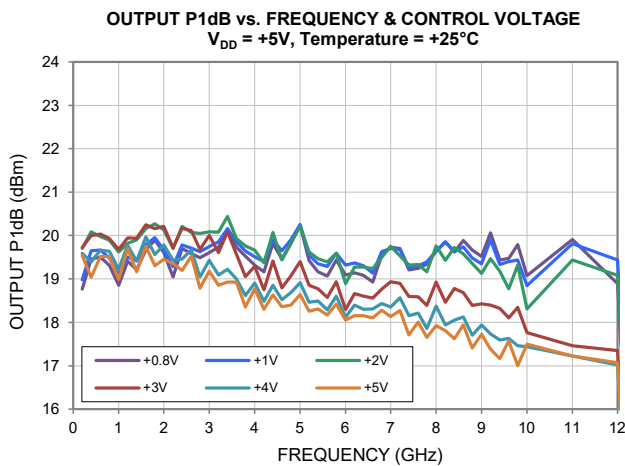
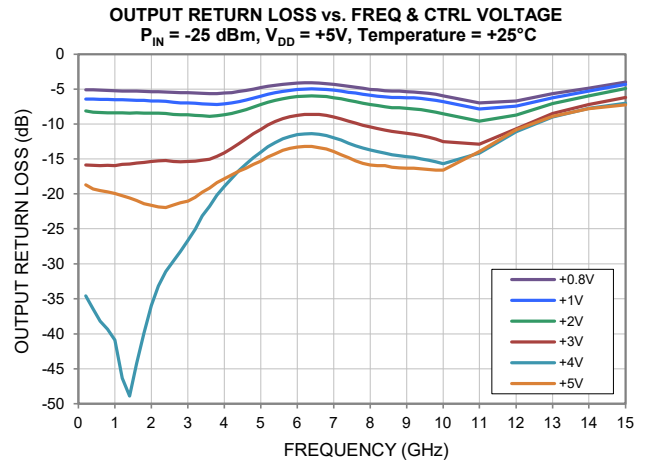
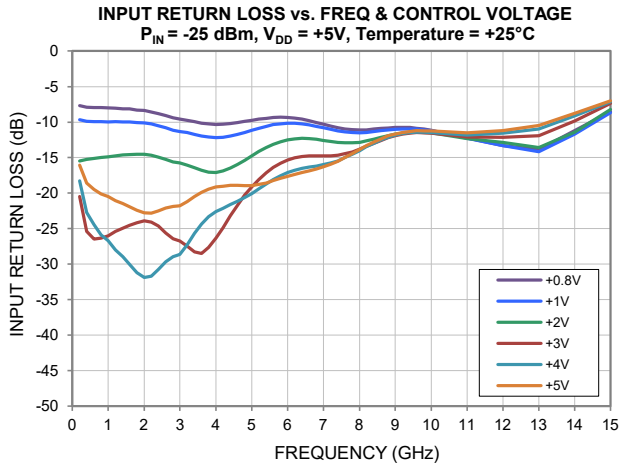
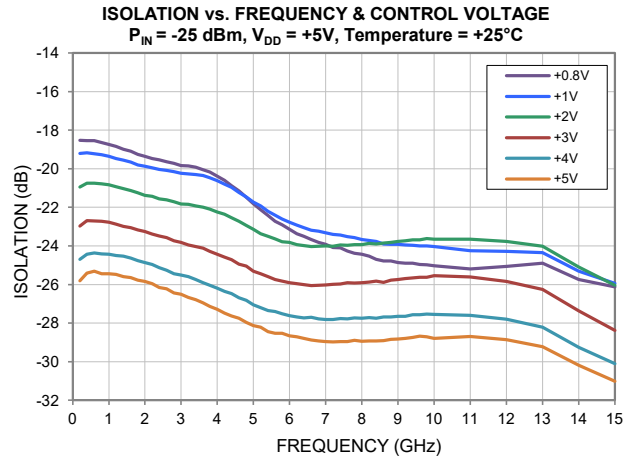
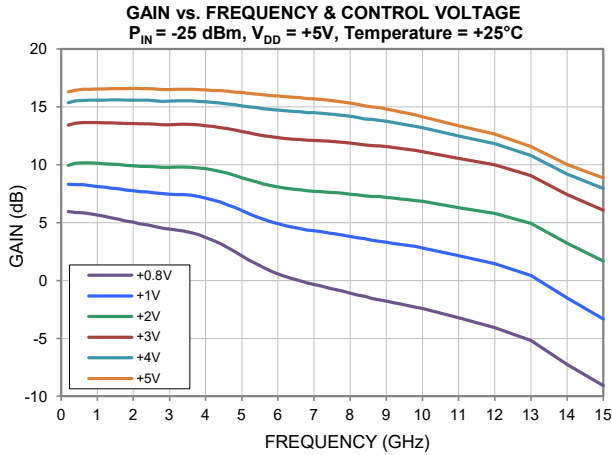
## Typical Performance Curves



## Typical Performance Curves

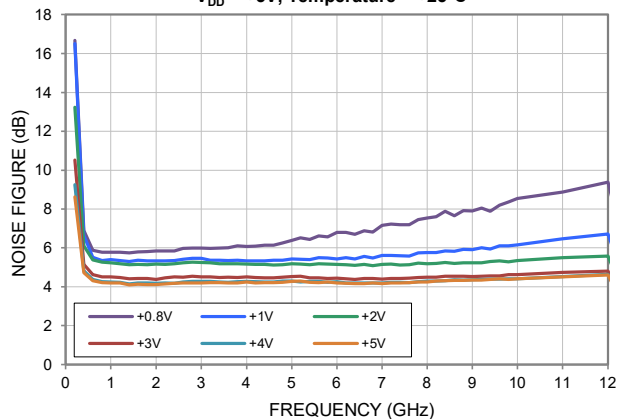


## Typical Performance Curves

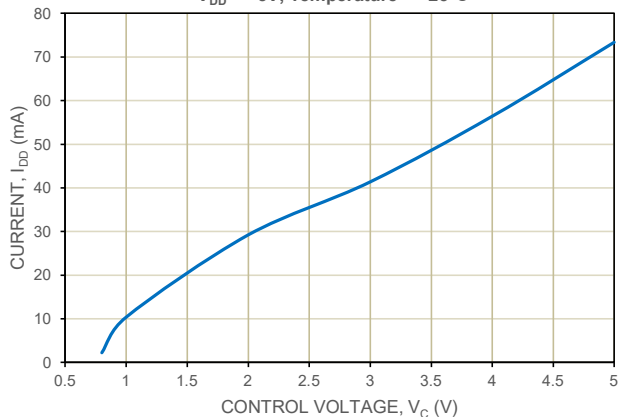


## Typical Performance Curves

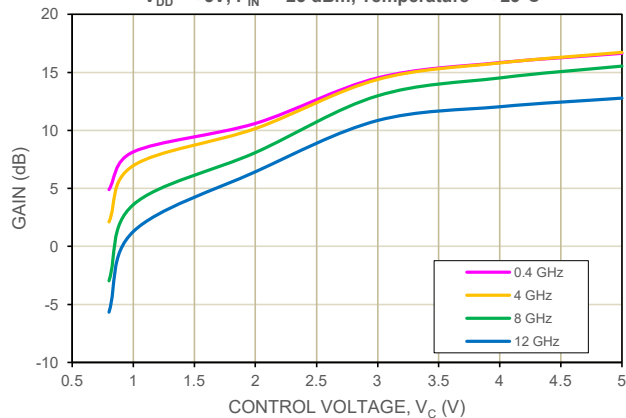
**NOISE FIGURE vs. FREQUENCY & CONTROL VOLTAGE**  
 $V_{DD} = +5V$ , Temperature = +25°C



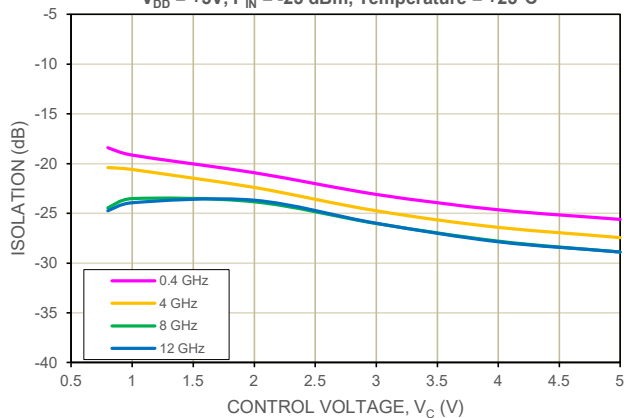
**CURRENT,  $I_{DD}$ , vs. CONTROL VOLTAGE**  
 $V_{DD} = +5V$ , Temperature = +25°C



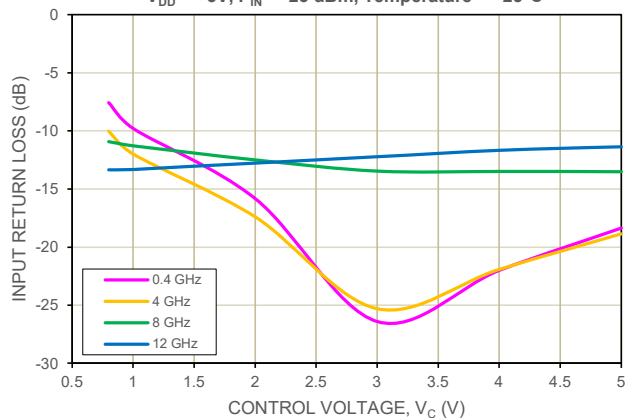
**GAIN vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +5V$ ,  $P_{IN} = -25$  dBm, Temperature = +25°C



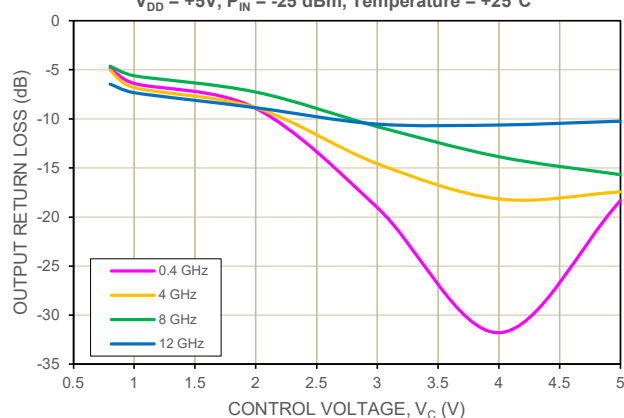
**ISOLATION vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +5V$ ,  $P_{IN} = -25$  dBm, Temperature = +25°C



**INPUT RETURN LOSS vs. CONTROL VOLTAGE & FREQ**  
 $V_{DD} = +5V$ ,  $P_{IN} = -25$  dBm, Temperature = +25°C



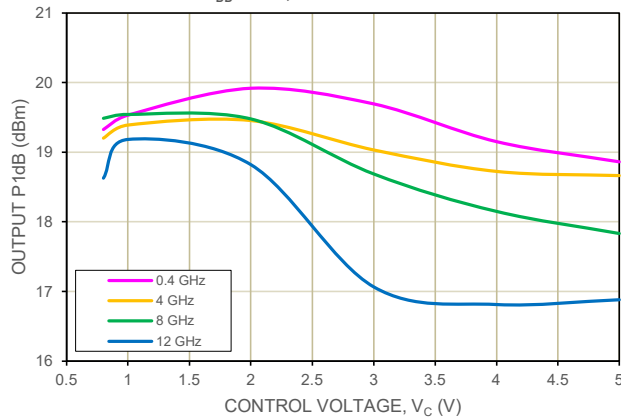
**OUTPUT RETURN LOSS vs. CONTROL VOLTAGE & FREQ**  
 $V_{DD} = +5V$ ,  $P_{IN} = -25$  dBm, Temperature = +25°C



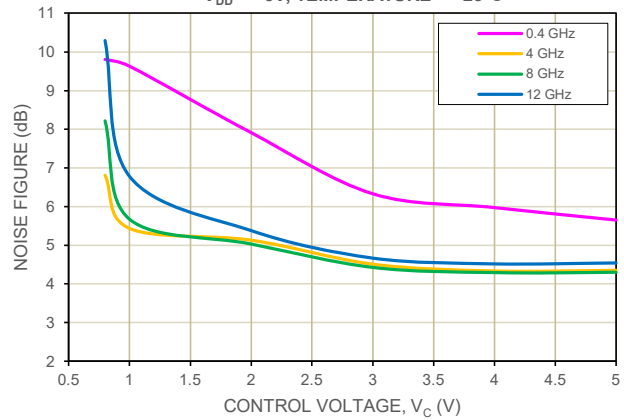


## Typical Performance Curves

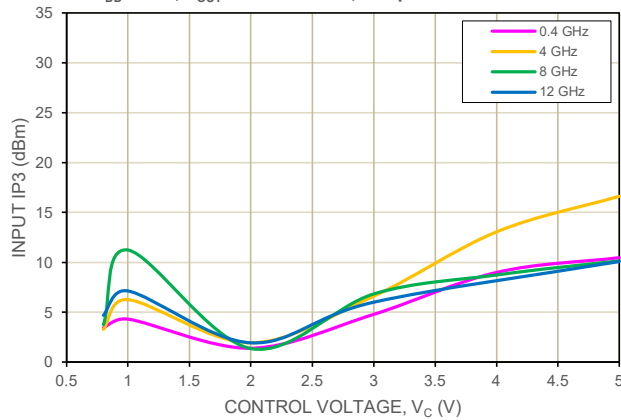
**OUTPUT P1dB vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +5V$ , TEMPERATURE =  $+25^{\circ}C$



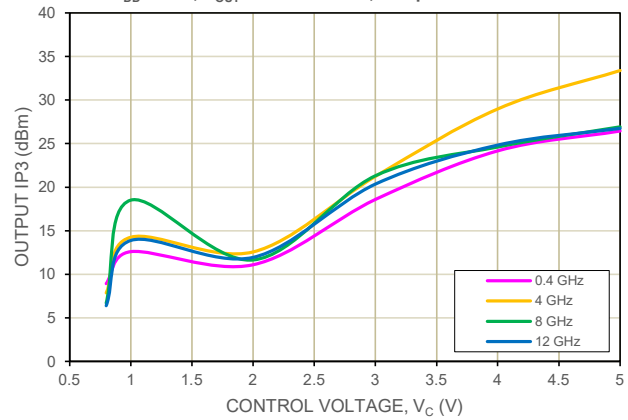
**NOISE FIGURE vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +5V$ , TEMPERATURE =  $+25^{\circ}C$



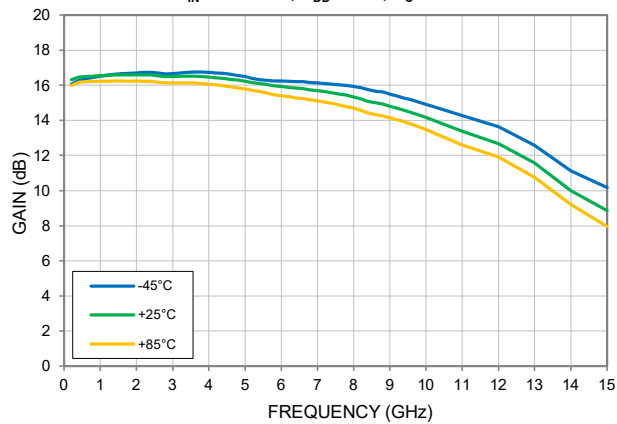
**INPUT IP3 vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +5V$ ,  $P_{OUT} = -5$  dBm/Tone, Temperature =  $+25^{\circ}C$



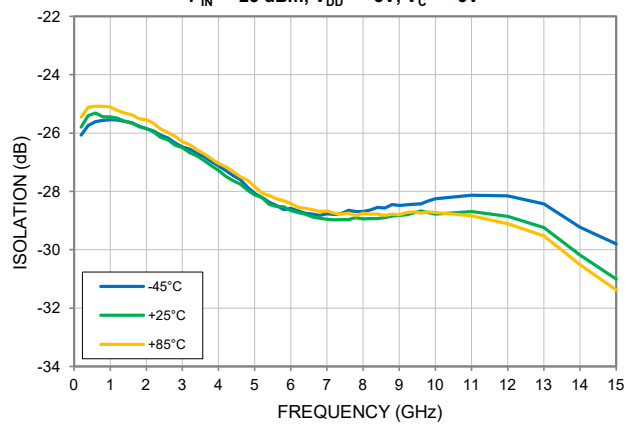
**OUTPUT IP3 vs. CONTROL VOLTAGE & FREQUENCY**  
 $V_{DD} = +5V$ ,  $P_{OUT} = -5$  dBm/Tone, Temperature =  $+25^{\circ}C$



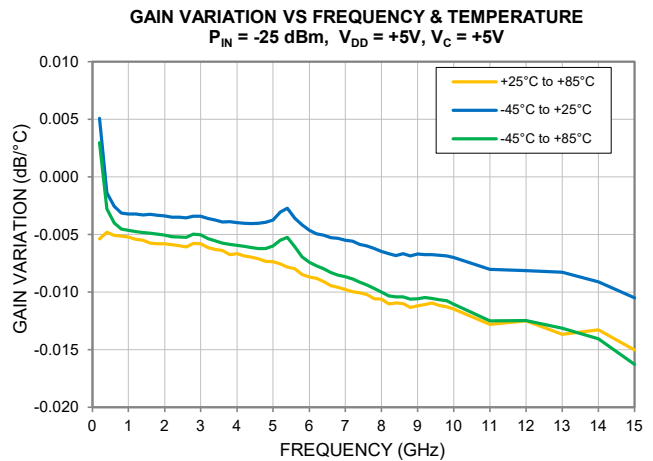
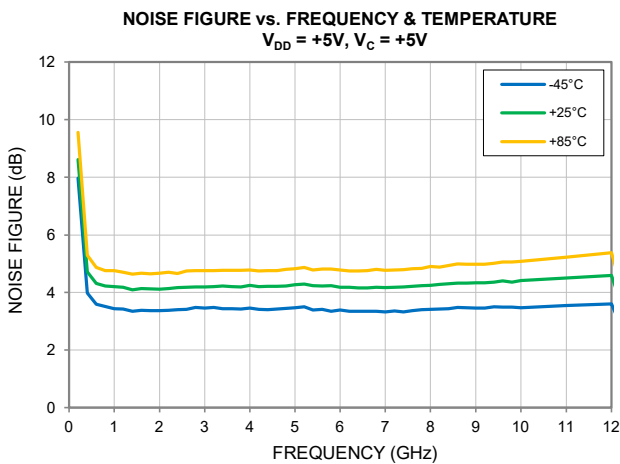
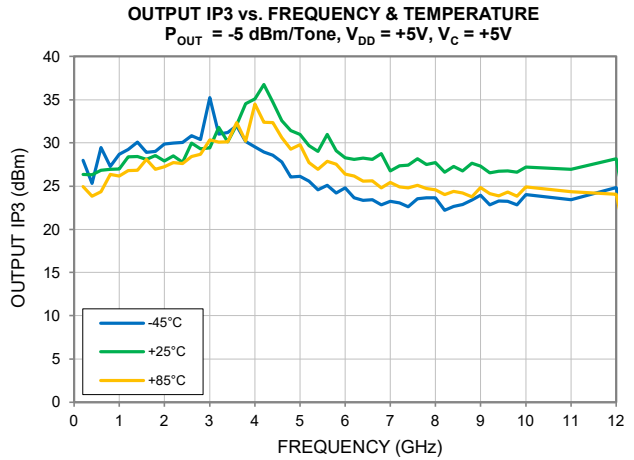
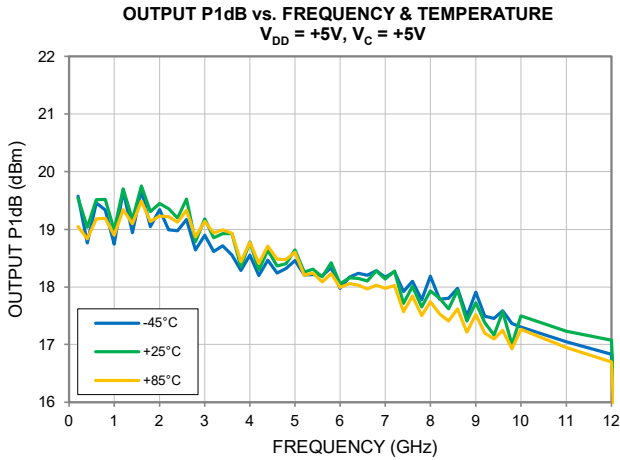
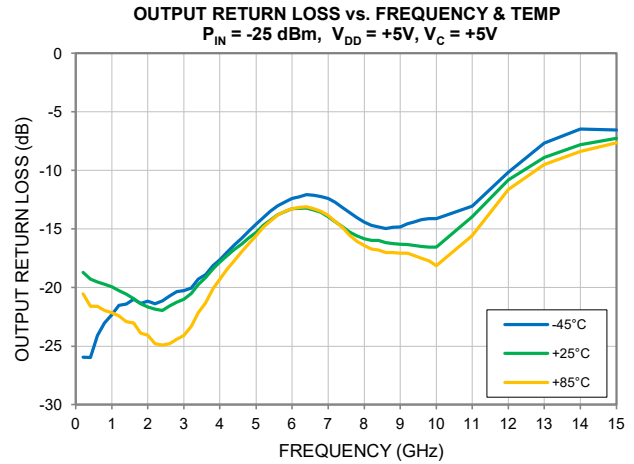
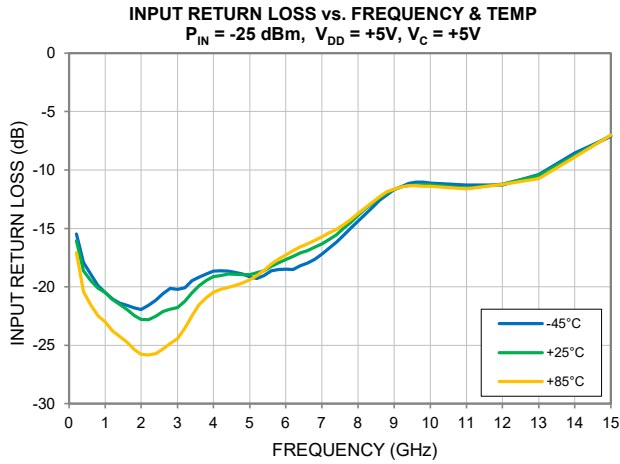
**GAIN vs. FREQUENCY & TEMPERATURE**  
 $P_{IN} = -25$  dBm,  $V_{DD} = +5V$ ,  $V_C = +5V$



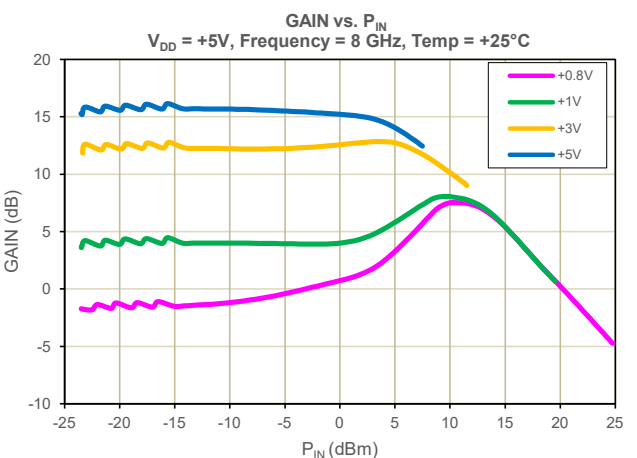
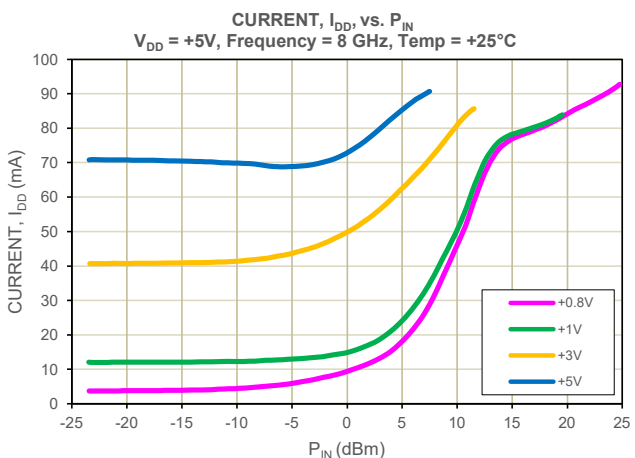
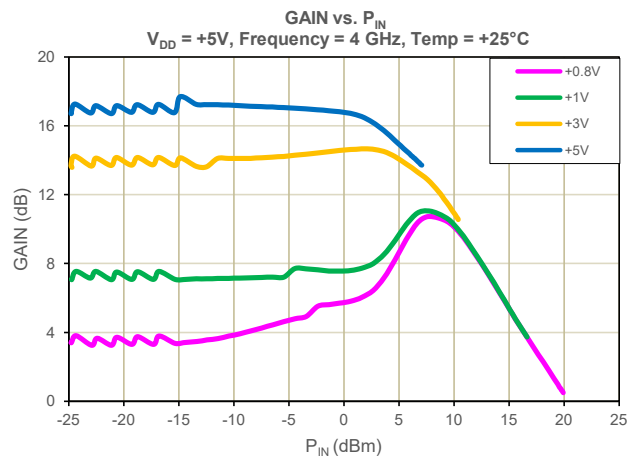
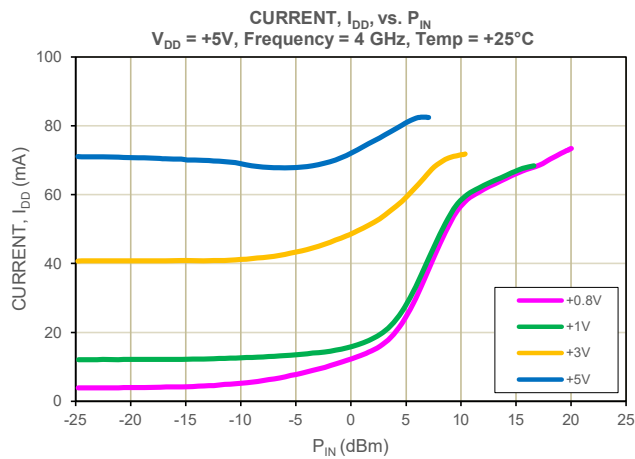
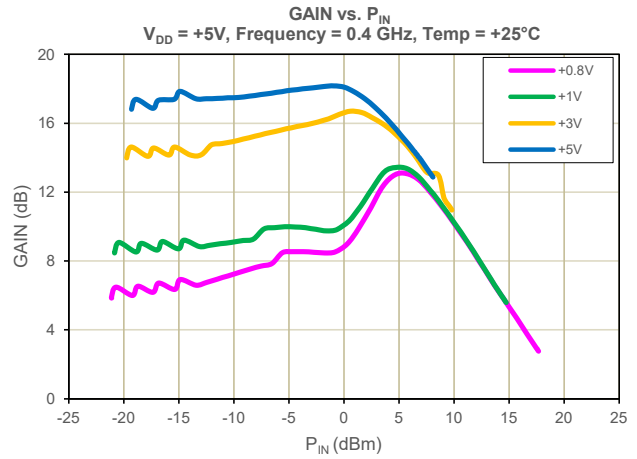
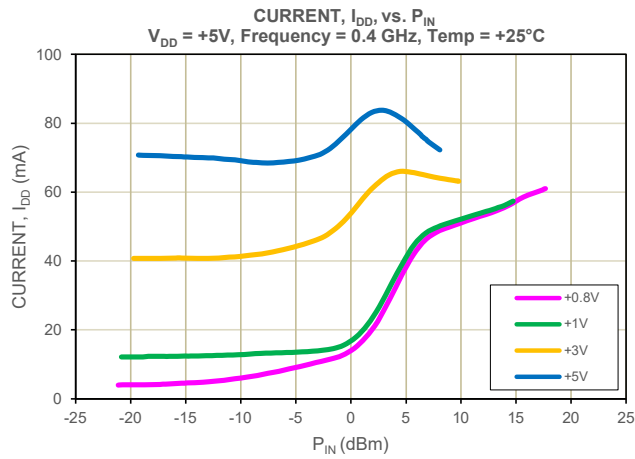
**ISOLATION vs. FREQUENCY & TEMPERATURE**  
 $P_{IN} = -25$  dBm,  $V_{DD} = +5V$ ,  $V_C = +5V$



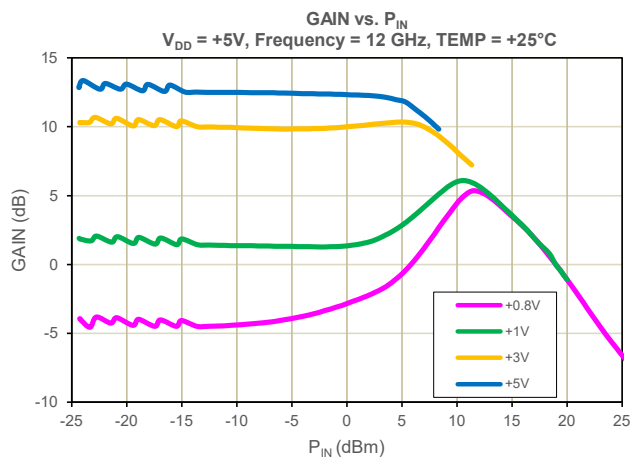
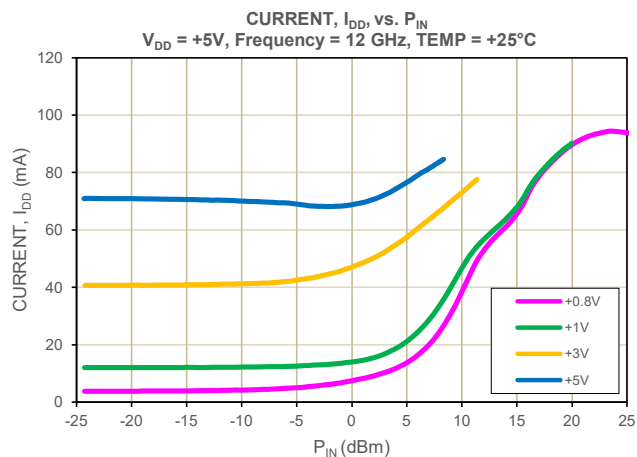
## Typical Performance Curves



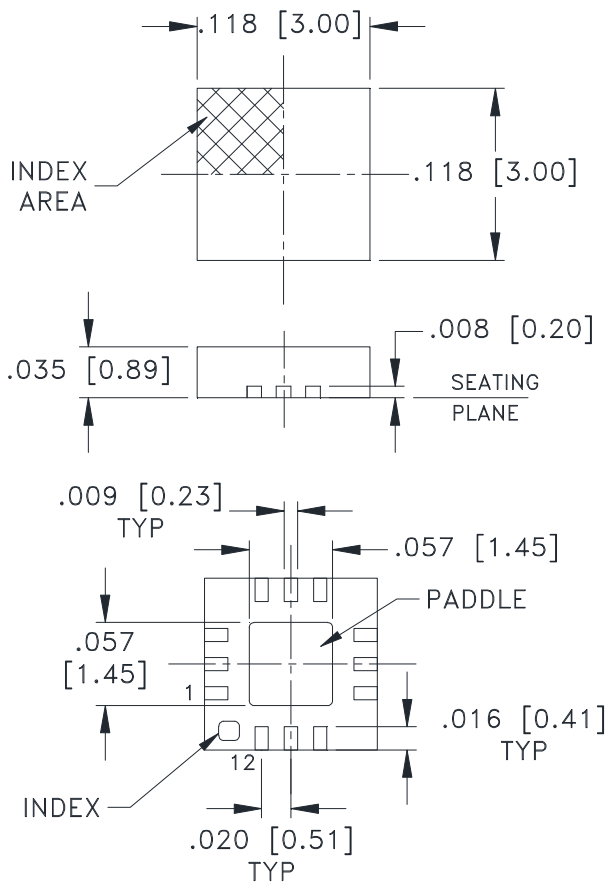
## Typical Performance Curves



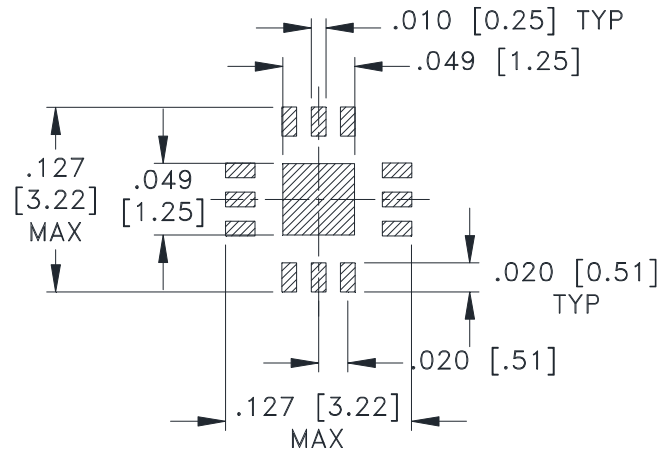
## Typical Performance Curves



### Outline Dimensions



### PCB Land Pattern



SUGGESTED LAYOUT,  
TOLERANCE TO BE WITHIN  $\pm .002$

**Weight: .02 Grams**

**Dimensions are in inches (mm). Tolerances: 2Pl.  $\pm .01$ ; 3 Pl.  $\pm .004$**

### Notes:

1. Case material: Plastic.
2. Termination finish:
  - For RoHS Case Styles: Tin-Silver alloy plate over Nickel barrier or Matte-Tin. All models, (+) suffix. See Data sheet.
  - For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.

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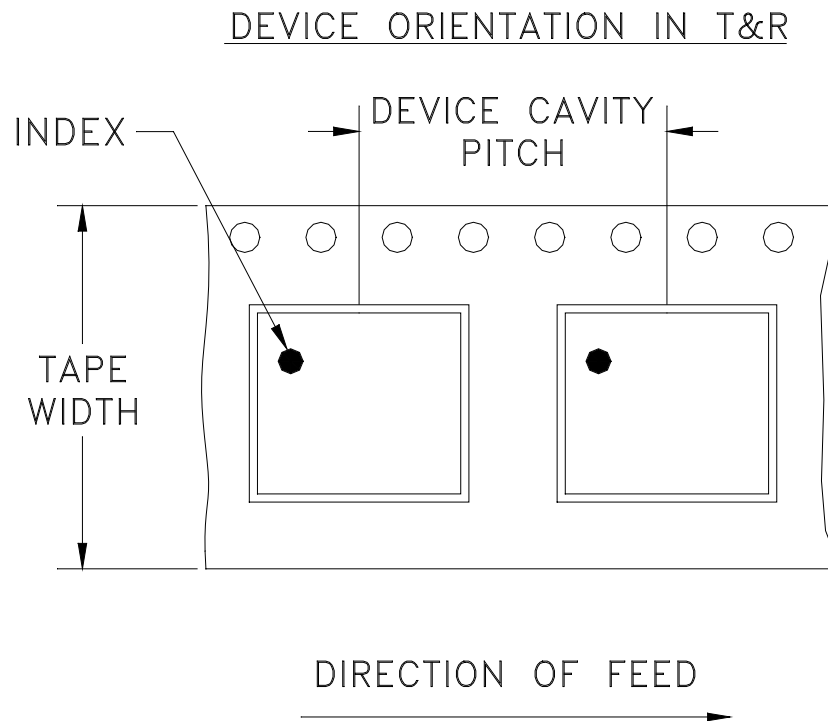
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# Tape & Reel Packaging TR-F66



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel see note	
8	4	7	Small quantity standard	20
				50
				100
				200
				500
		7	Standard	1000, 2000, 3000

Note: Please consult individual model data sheet to determine device per reel availability.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: [www.minicircuits.com/pages/pdfs/tape.pdf](http://www.minicircuits.com/pages/pdfs/tape.pdf)

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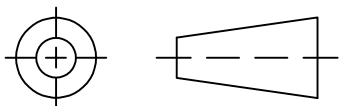
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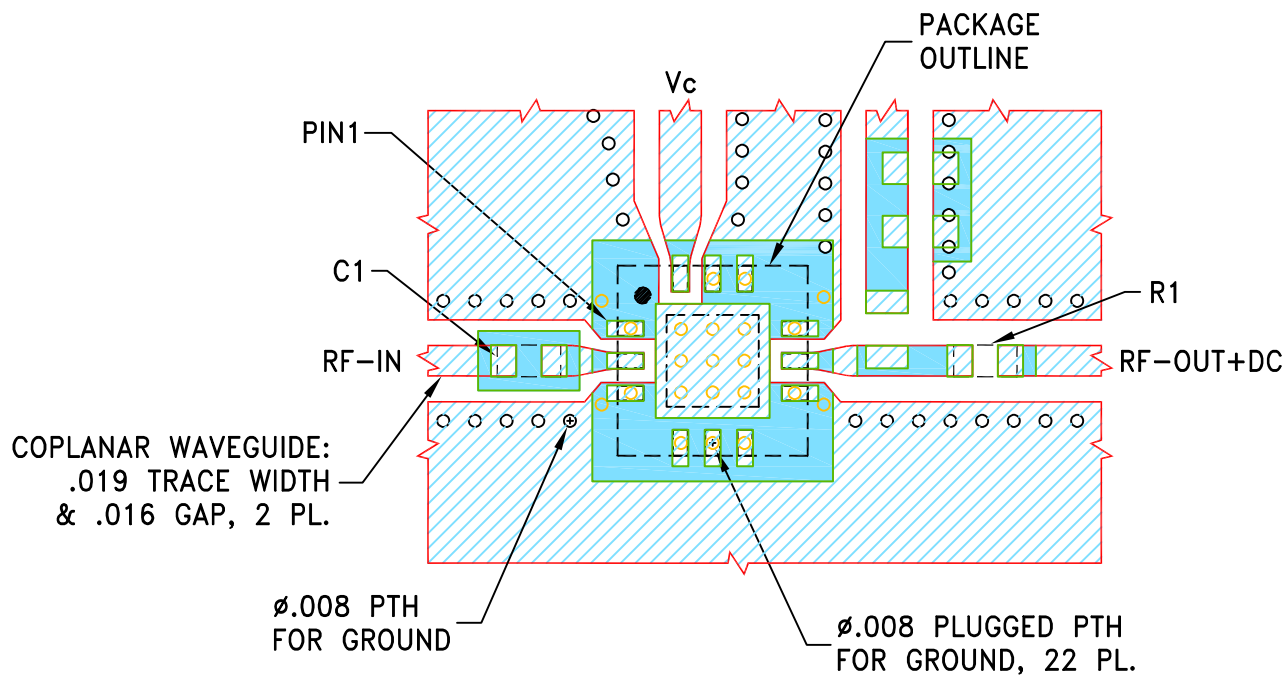
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	ECO-016924	NEW RELEASE	02/24/23	ITG	IL

SUGGESTED MOUNTING CONFIGURATION FOR DQ1225 CASE STYLE



COMPONENT	SIZE
C1	0402
R1	0402

NOTES:

1. TRACE WIDTH & GAP PARAMETERS ARE SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .0010". COPPER: 1 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
2. CHIP COMPONENT FOOT PRINTS SHOWN FOR REFERENCE. FOR COMPONENT VALUES REFER TO TB-PVGA-123(C)+.
3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

UNLESS OTHERWISE SPECIFIED	INITIALS	DATE
DIMENSIONS ARE IN INCHES	DRAWN ITG	02/23/23
TOLERANCES ON:	CHECKED GF	02/23/23
2 PL DECIMALS ±	APPROVED IL	02/23/23
3 PL DECIMALS ± .005		
ANGLES ±		
FRACTIONS ±		

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Brooklyn NY 11235

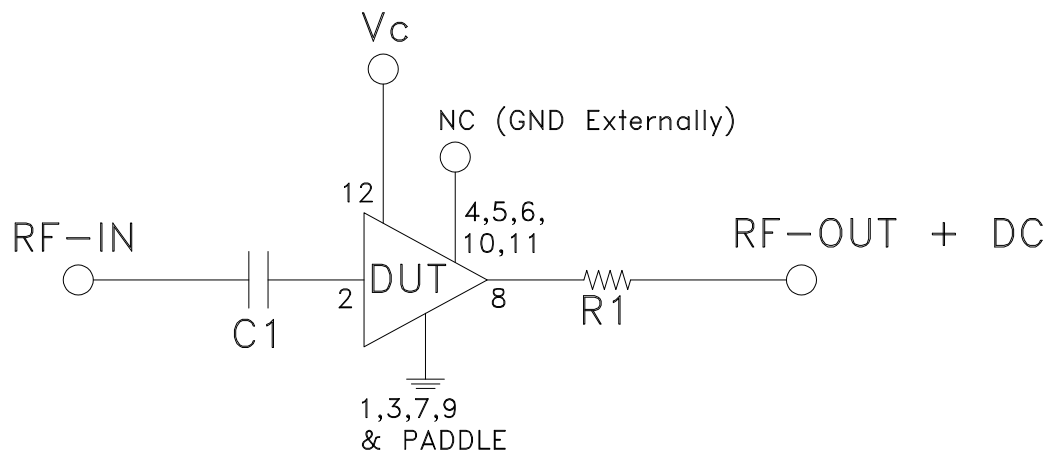
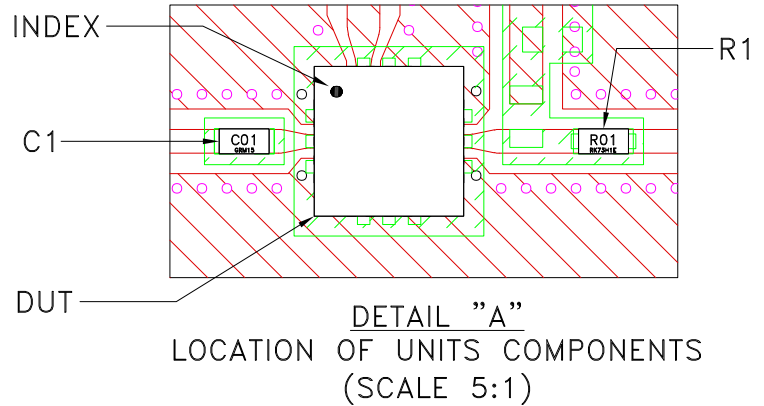
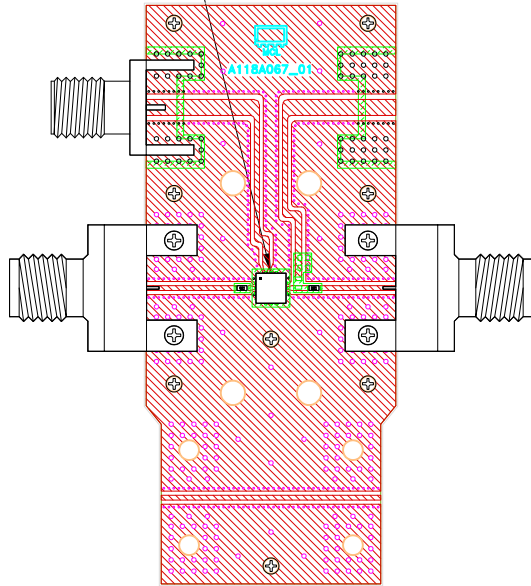
PL, DQ1225, TB-PVGA-123(C)+

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SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-749	OR
FILE:	98PL749	SCALE: 8:1	SHEET: 1 OF 1

# Evaluation Board and Circuit

SEE DETAIL "A"



SCHEMATIC DIAGRAM

Component	Size	Value	Part Number	Manufacturer
C1	0402	100pF	GRM1555C1H101JA01D	Murata
R1	0402	00hm	RK73Z1ETTP	KOA Speer

## Notes:

- 2.92mm Female Connectors.
- PCB Material: Roger R04350B or equivalent,  
Dielectric constant=3.5, Thickness=0.010 inch

 Mini-Circuits®



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85°C or -45° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C or -65° to 150° Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Mechanical Shock	1.5Kg, 0.5 ms, 5 shock pulses, Y1 direction only	MIL-STD-883, Method 2002, Condition B, except Y1 direction only
Vibration (Variable Frequency)	50g peak	MIL-STD-883, Method 2007, Condition B
Autoclave	15 psig, 100% RH, 121°C, 96 hours	JESD22-A102, Condition C
HAST	130°C, 85% RH, 96 hours	JESD22-A110
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Solder Reflow Heat	Sn-Pb Eutetic Process: 240°C peak Pb-Free Process: 260°C peak	J-STD-020, Table 4-1, 4-2 and 5-2; Figure 5-1
Moisture Sensitivity: Level 1	Bake at 125°C for 24 hours Soak at 85°C/85% RH for 168 hours, Reflow 3 cycles at 260°C peak	J-STD-020
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether +	MIL-STD-202, Method 215



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

<b>Specification</b>	<b>Test/Inspection Condition</b>	<b>Reference/Spec</b>
	monoethanolamine at 63°C to 70°C	