



MMIC SURFACE MOUNT

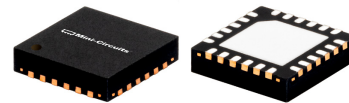
# SP4T RF Switch

## M4SWA4-34DR+

50Ω DC to 30 GHz Absorptive RF Switch with Internal Driver

### THE BIG DEAL

- Wideband, DC to 30 GHz
- Low Insertion Loss, Typ. 1.8 dB
- High Isolation, Typ. 47 dB
- High Input IP3, Typ. +46 dBm
- Fast Rise/Fall Time, Typ. 23.1 ns/6.4 ns
- 4x4 mm, 24-Lead QFN-Style Package

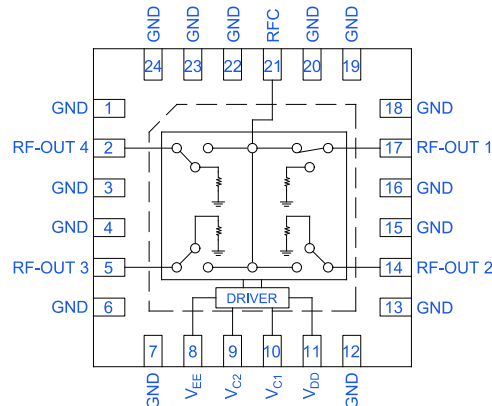


Generic photo used for illustration purposes only

### APPLICATIONS

- Radar, EW, and ECM Defense Systems
- Communication Infrastructure
- Test and Measurement Equipment

### FUNCTIONAL DIAGRAM



### PRODUCT OVERVIEW

Mini-Circuits' M4SWA4-34DR+ is a GaAs MMIC SP4T absorptive switch with an internal driver designed for wideband operation from DC to 30 GHz. This switch enables fast, nano-second switching across a wide frequency range with minimal gate lag effects. This model provides excellent isolation, high linearity, and is capable of withstanding +24 dBm RF input power. It is packaged in a small 4x4 mm QFN-Style package for ease of integration in compact assemblies.

### KEY FEATURES

Features	Advantages
Absorptive Design	Absorptive switch design enables excellent return loss on all ports, minimizing reflection at the unselected ports.
High Isolation: <ul style="list-style-type: none"> <li>• 47 dB Typ. RFC to RF-OUT 1/2/3/4</li> <li>• 45 dB Typ. Between RF-OUT 1/2/3/4</li> </ul>	High isolation significantly reduces leakage of power into OFF ports.
High Linearity and Input Power: <ul style="list-style-type: none"> <li>• Input Power at P1dB, +28.9 dBm Typ.</li> <li>• Input IP3, +46 dBm Typ.</li> <li>• Max RF Input Power, +30 dBm CW</li> </ul>	High linearity minimizes unwanted intermodulation products which are difficult or impossible to filter in multi-carrier environments, or in the presence of strong interfering signals from adjacent circuitry. High RF input power tolerance protects the device from damage due to unexpected spikes in signal level.
Fast RF Switching Time: <ul style="list-style-type: none"> <li>• Rise/Fall Time, Typ. 23.1 ns/6.4 ns</li> <li>• On/Off Time, Typ. 67 ns/37 ns</li> <li>• Settling to 0.05 dB, Typ. 104 ns</li> </ul>	Fast switching makes this model suitable for applications where extremely fast transition between ports is required, such as automated switching networks.
Compact Size, 4x4 mm	Small footprint saves space in dense layouts, while providing low inductance, repeatable transitions, and excellent thermal contact to the PCB. Industry standard packaging allows for ease of assembly in high volume manufacturing processes.





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### ELECTRICAL SPECIFICATIONS<sup>1,2,3</sup> AT +25° C, V<sub>DD</sub>= +3.3 V, V<sub>EE</sub>= -3.3 V, UNLESS NOTED OTHERWISE

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		30	GHz
Insertion Loss	0.01		0.9	1.4	dB
	0.1		0.9	1.4	
	1.0		1.1	1.6	
	10		1.8	2.5	
	20		2.4	3.2	
	30		3.3	4.8	
Isolation Between Ports, RF-OUT 1/2/3/4	0.01	65	76		dB
	0.1	63	74		
	1.0	52	61		
	10	40	45		
	20	42	52		
	30	36	42		
Isolation Between RFC & RF-OUT 1/2/3/4 Ports	0.01	65	75		dB
	0.1	64	75		
	1.0	54	62		
	10	40	47		
	20	37	43		
	30	34	40		
Return Loss - RFC	0.01		22		dB
	0.1		22		
	1.0		18		
	10		15		
	20		19		
	30		15		
Return Loss – RF-OUT 1/2/3/4 (On & Off State)	0.01		15		dB
	0.1		16		
	1.0		17		
	10		17		
	20		15		
	30		17		
Input IP3 (P <sub>IN</sub> = +5 dBm/Tone)	0.01		+33		dBm
	0.1		+44		
	1.0		+45		
	10		+46		
	20		+45		
	30		+37		
Input Power at P1dB Compression	0.01		+19.3		dBm
	0.1		+24.3		
	1.0		+27.4		
	10		+28.9		
	20		+28.2		
	30		+28.3		
Input Power at P0.1dB Compression	0.01		+13.5		dBm
	0.1		+21.0		
	1.0		+24.0		
	10		+25.2		
	20		+25.2		
	30		+24.7		

1. Tested on Mini-Circuits Characterization Test Board TB-M4SWA434DRC+. See Figure 2.

2. Bi-directional, refer to S-Parameters for actual performance.

3. All RF-ports must be DC blocked or held at 0 V DC.





## DC ELECTRICAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Units
Positive Supply Voltage, $V_{DD}$	+3.2	+3.3	+3.4	V
Negative Supply Voltage, $V_{EE}$	-3.4	-3.3	-3.2	V
Positive Supply Current, $I_{DD}$		1.2	1.8	mA
Negative Supply Current, $I_{EE}$		0.8	1.4	mA
Control Voltage Low		0	+0.8	V
Control Voltage High	+1.6	+2	$V_{DD}$	V
Control Current ( $I_{C1}$ ) Low		0		nA
Control Current ( $I_{C1}$ ) High		9	21	nA
Control Current ( $I_{C2}$ ) Low		0		nA
Control Current ( $I_{C2}$ ) High		7	16	nA

## SWITCHING SPECIFICATIONS

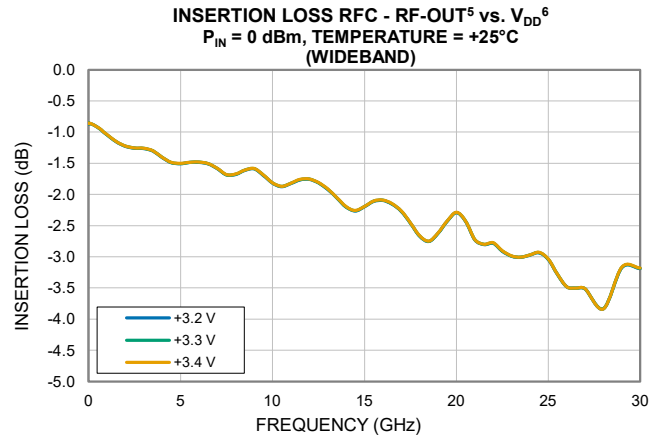
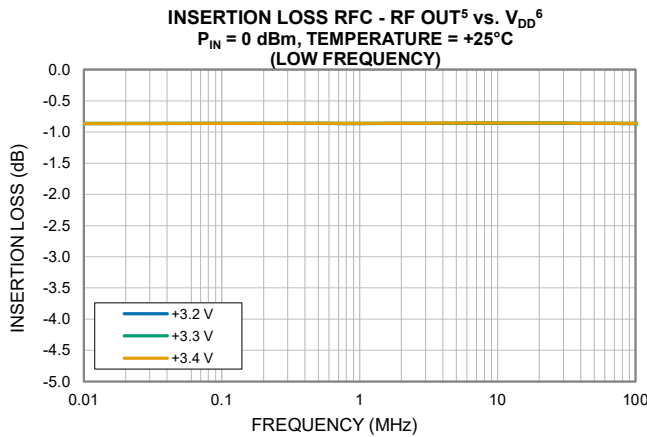
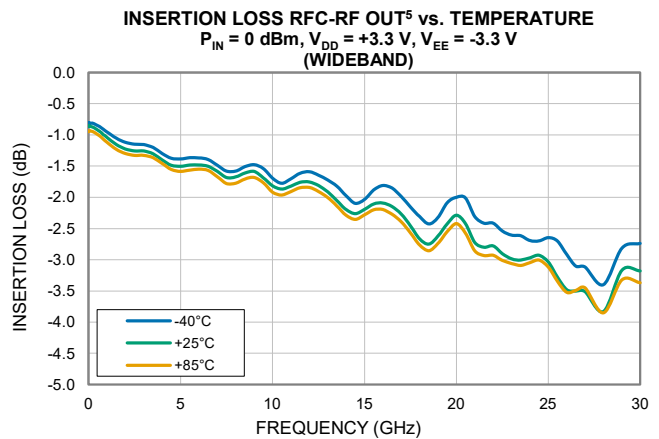
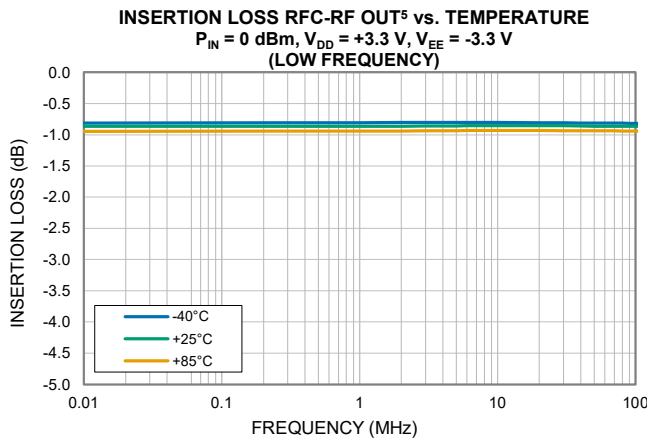
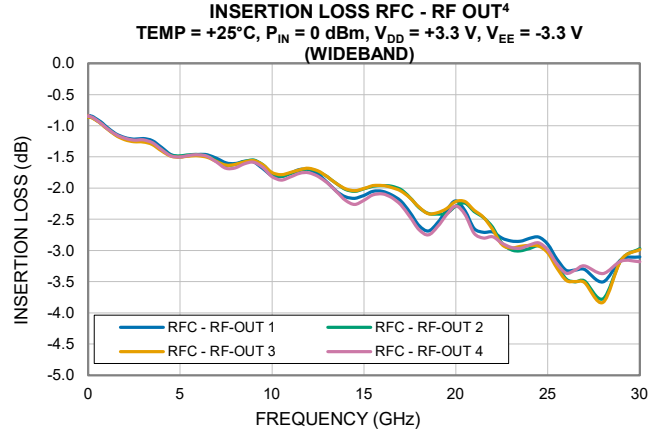
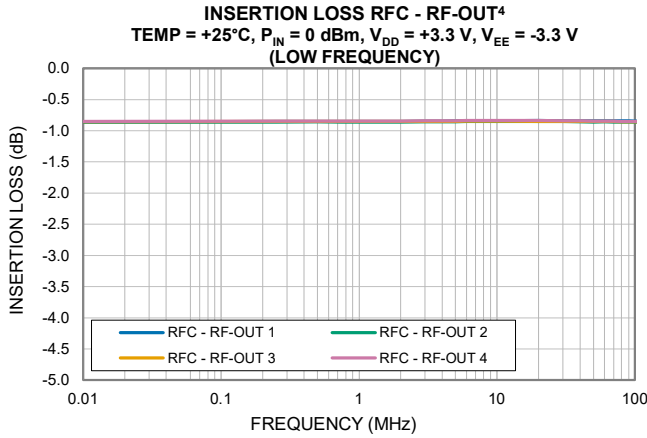
Parameter	Condition	Min.	Typ.	Max.	Units	
ON Time, 50% Control to 90% RF output	RF $P_{IN}$ at RFC = 0 dBm RF Frequency = 150 MHz Control Frequency = 1 kHz Control High = +2 V Control Low = 0 V		67		ns	
OFF Time, 50% Control to 10% RF output			37		ns	
Video Leakage				+4.5		mV
Rise Time, 10% to 90% of RF output				23.1		ns
Fall Time, 90% to 10% of RF output				6.7		ns
Settling time, 50% VCTRL to 0.05 dB of final RF output				104		ns
Settling time, 50% VCTRL to 0.02 dB of final RF output				446		ns

## TRUTH TABLE

State of $V_{C1}$	State of $V_{C2}$	RFC to RF-OUT 1	RFC to RF-OUT 2	RFC to RF-OUT 3	RFC to RF-OUT 4
Low	Low	ON	OFF	OFF	OFF
High	Low	OFF	ON	OFF	OFF
Low	High	OFF	OFF	ON	OFF
High	High	OFF	OFF	OFF	ON



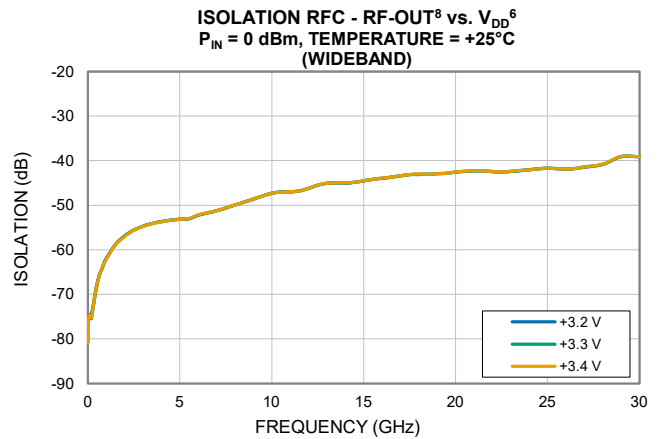
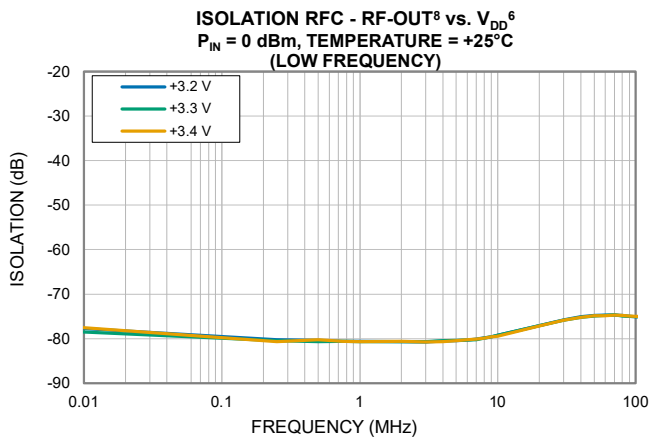
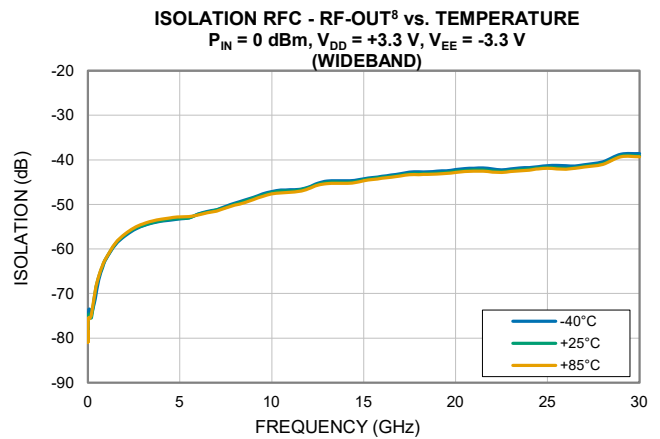
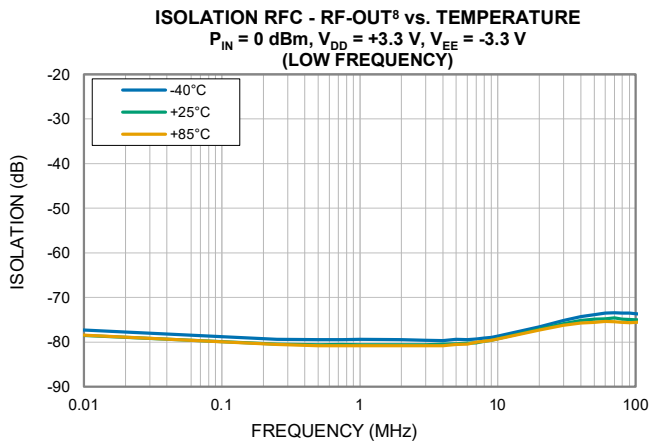
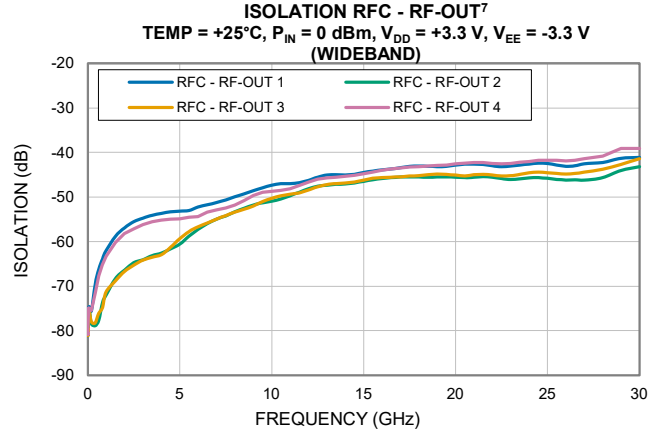
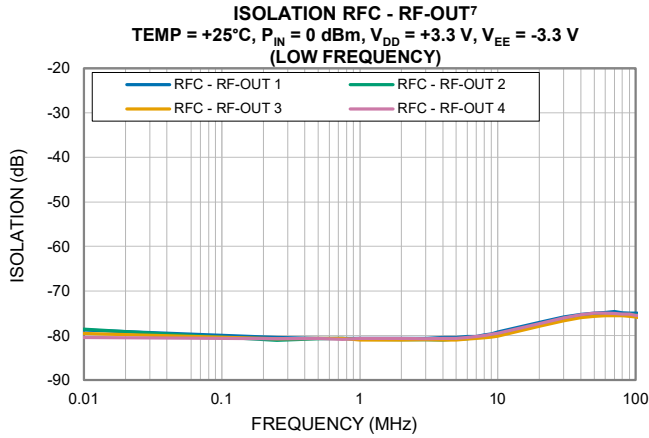
### TYPICAL PERFORMANCE GRAPHS



4. RF-OUT defined as either RF-OUT 1 (ON), RF-OUT 2 (ON), RF-OUT 3 (ON), or RF-OUT 4 (ON)  
 5. RF-OUT defined as the worst of RFC to RF-OUT 1 (ON), RF-OUT 2 (ON), RF-OUT 3 (ON), or RF-OUT 4 (ON)  
 6. V<sub>EE</sub> is the negative equivalent value to V<sub>DD</sub>. Both V<sub>DD</sub> and V<sub>EE</sub> are varied.



### TYPICAL PERFORMANCE GRAPHS

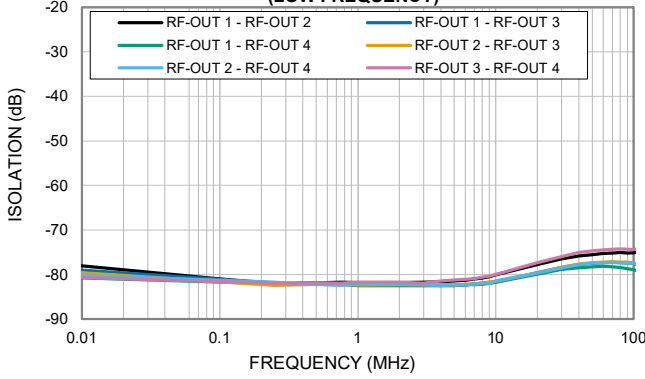


6. V<sub>EE</sub> is the negative equivalent value to V<sub>DD</sub>. Both V<sub>DD</sub> and V<sub>EE</sub> are varied.  
 7. RF-OUT defined as either RF-OUT 1 (OFF), RF-OUT 2 (OFF), RF-OUT 3 (OFF), or RF-OUT 4 (OFF)  
 8. RF-OUT defined as the worst of RFC to RF-OUT 1 (OFF), RF-OUT 2 (OFF), RF-OUT 3 (OFF), or RF-OUT 4 (OFF)

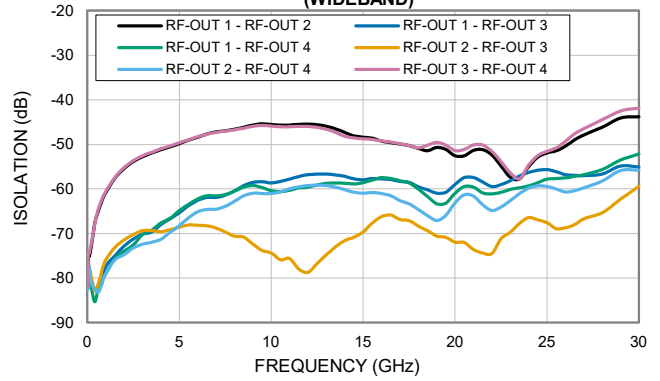


### TYPICAL PERFORMANCE GRAPHS

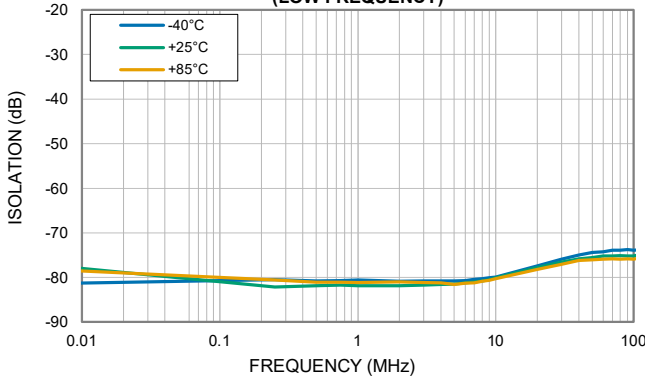
**ISOLATION BETWEEN RF OUTPUTS**  
TEMP = +25°C, P<sub>IN</sub> = 0 dBm, V<sub>DD</sub> = +3.3 V, V<sub>EE</sub> = -3.3 V  
(LOW FREQUENCY)



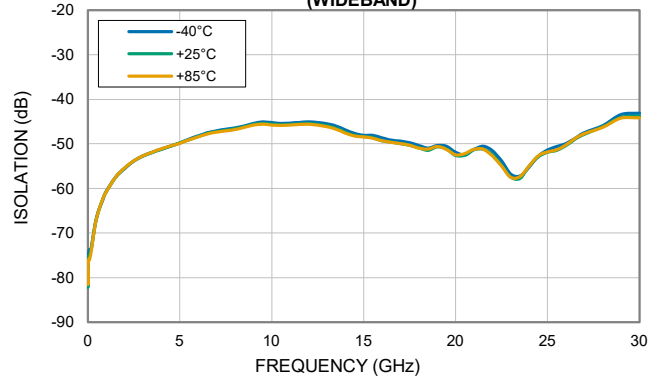
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(WIDEBAND)



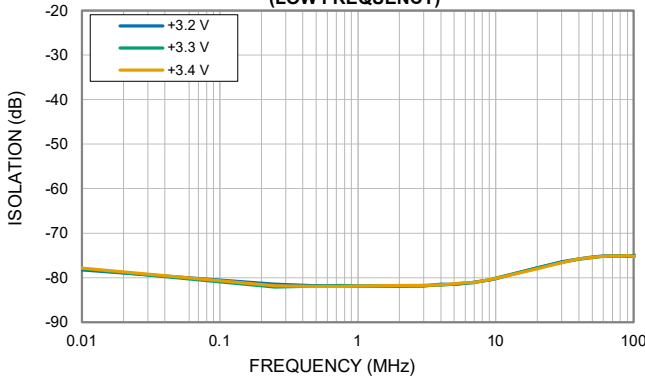
**ISOLATION RF-OUT 1 - RF-OUT 2 vs. TEMPERATURE**  
P<sub>IN</sub> = 0 dBm, V<sub>DD</sub> = +3.3 V, V<sub>EE</sub> = -3.3 V  
(LOW FREQUENCY)



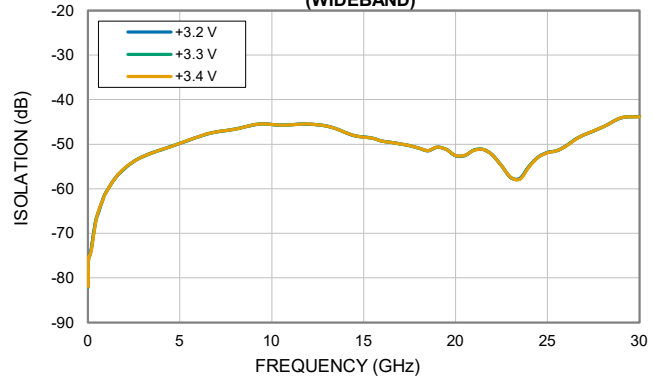
**ISOLATION RF-OUT 1 - RF-OUT 2 vs. TEMPERATURE**  
P<sub>IN</sub> = 0 dBm, V<sub>DD</sub> = +3.3 V, V<sub>EE</sub> = -3.3 V  
(WIDEBAND)



**ISOLATION RF-OUT 1 - RF-OUT 2 vs. V<sub>DD</sub><sup>6</sup>**  
P<sub>IN</sub> = 0 dBm, TEMPERATURE = +25°C  
(LOW FREQUENCY)



**ISOLATION RF-OUT 1 - RF-OUT 2 vs. V<sub>DD</sub><sup>6</sup>**  
P<sub>IN</sub> = 0 dBm, TEMPERATURE = +25°C  
(WIDEBAND)

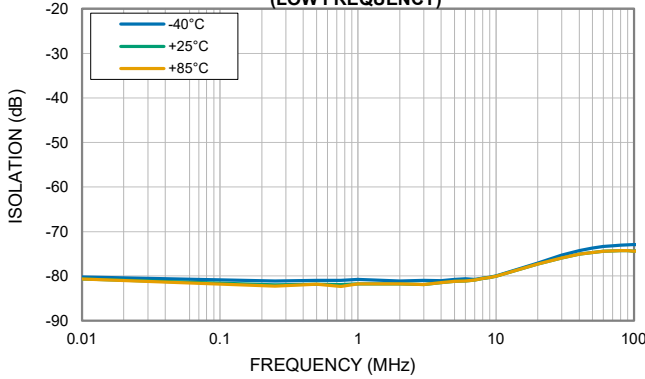


6. V<sub>EE</sub> is the negative equivalent value to V<sub>DD</sub>. Both V<sub>DD</sub> and V<sub>EE</sub> are varied.

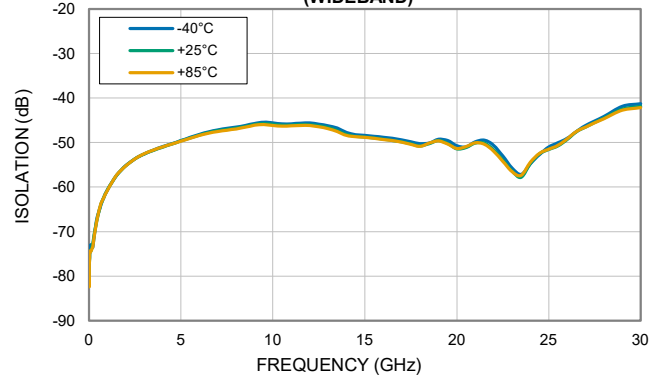


### TYPICAL PERFORMANCE GRAPHS

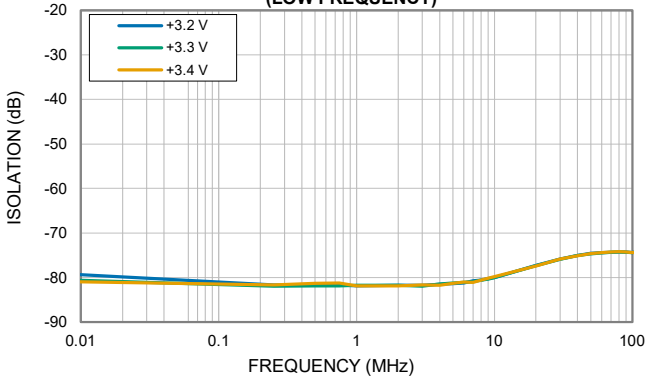
**ISOLATION RF-OUT 3 - RF-OUT 4 vs. TEMPERATURE**  
 $P_{IN} = 0 \text{ dBm}$ ,  $V_{DD} = +3.3 \text{ V}$ ,  $V_{EE} = -3.3 \text{ V}$   
(LOW FREQUENCY)



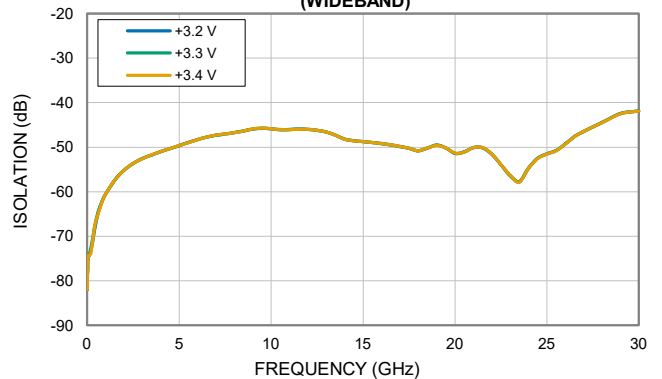
**ISOLATION RF-OUT 3 - RF-OUT 4 vs. TEMPERATURE**  
 $P_{IN} = 0 \text{ dBm}$ ,  $V_{DD} = +3.3 \text{ V}$ ,  $V_{EE} = -3.3 \text{ V}$   
(WIDEBAND)



**ISOLATION RF-OUT 3 - RF-OUT 4 vs.  $V_{DD}$ <sup>6</sup>**  
 $P_{IN} = 0 \text{ dBm}$ , TEMPERATURE = +25°C  
(LOW FREQUENCY)



**ISOLATION RF-OUT 3 - RF-OUT 4 vs.  $V_{DD}$ <sup>6</sup>**  
 $P_{IN} = 0 \text{ dBm}$ , TEMPERATURE = +25°C  
(WIDEBAND)

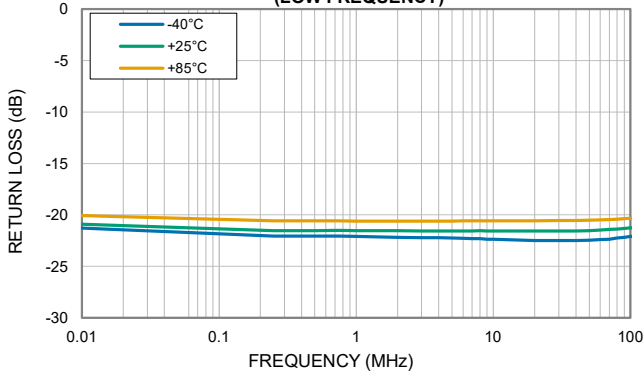


6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.

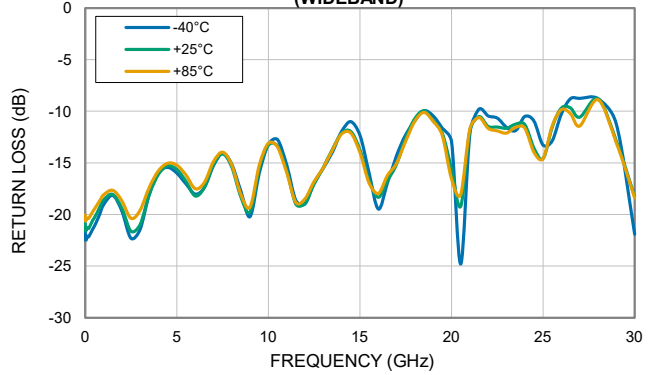


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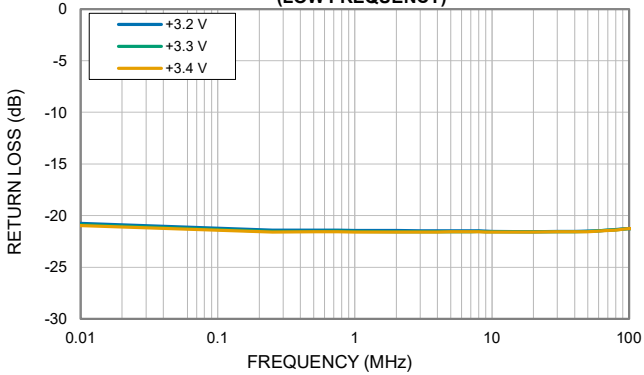
**RFC INPUT RETURN LOSS vs. TEMPERATURE**  
 $P_{IN} = 0 \text{ dBm}$ ,  $V_{DD} = +3.3 \text{ V}$ ,  $V_{EE} = -3.3 \text{ V}$   
(LOW FREQUENCY)



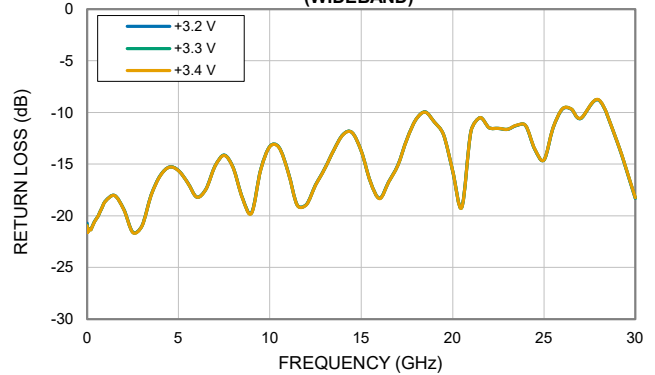
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(WIDEBAND)



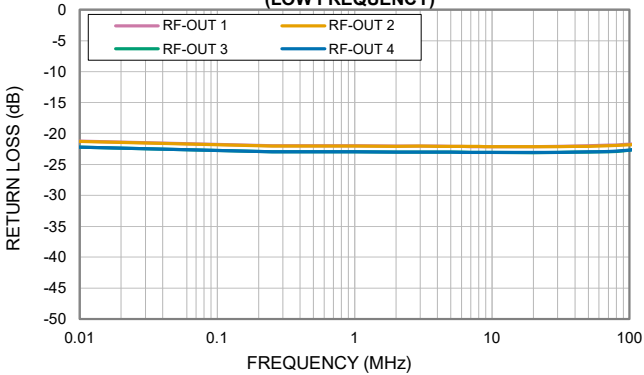
**RFC INPUT RETURN LOSS vs.  $V_{DD}$ <sup>6</sup>**  
 $P_{IN} = 0 \text{ dBm}$ , TEMPERATURE = +25°C  
(LOW FREQUENCY)



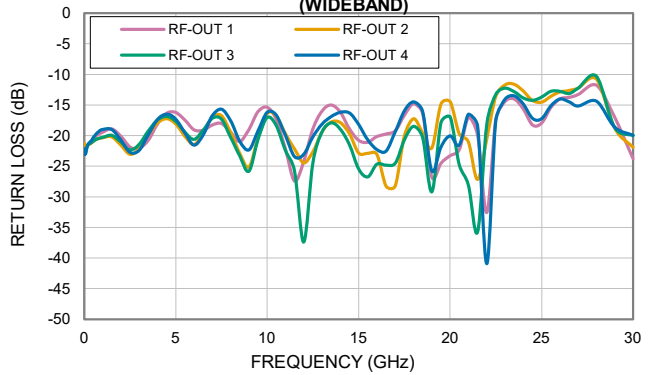
**RFC INPUT RETURN LOSS vs.  $V_{DD}$ <sup>6</sup>**  
 $P_{IN} = 0 \text{ dBm}$ , TEMPERATURE = +25°C  
(WIDEBAND)



**RF (ON) OUTPUT RETURN LOSS**  
TEMP = +25°C,  $P_{IN} = 0 \text{ dBm}$ ,  $V_{DD} = +3.3 \text{ V}$ ,  $V_{EE} = -3.3 \text{ V}$   
(LOW FREQUENCY)



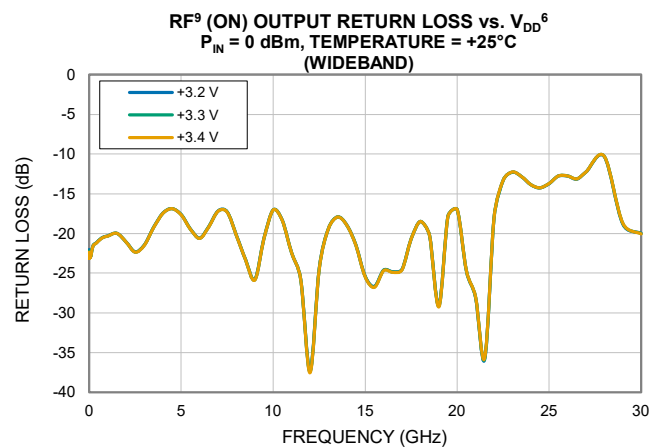
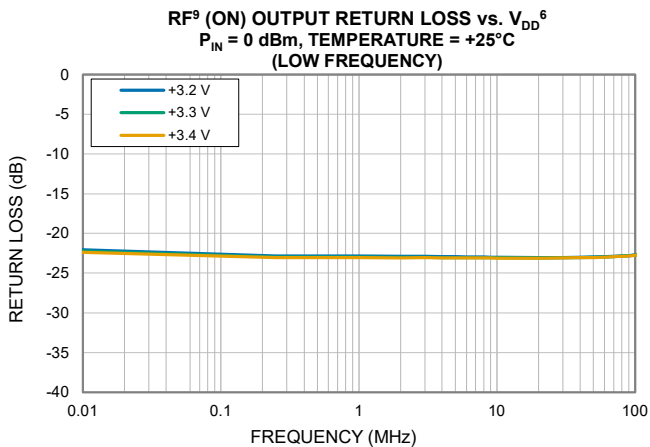
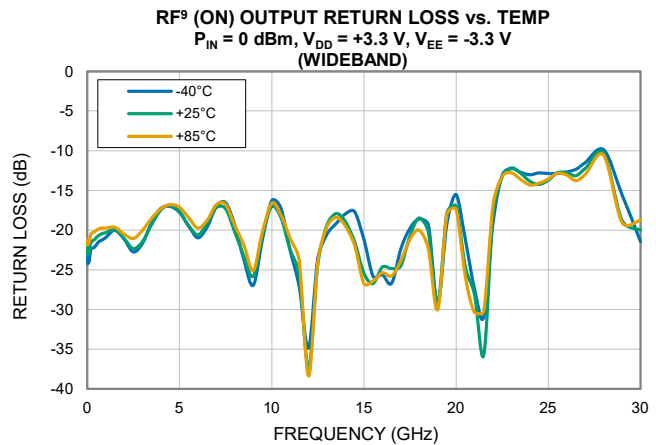
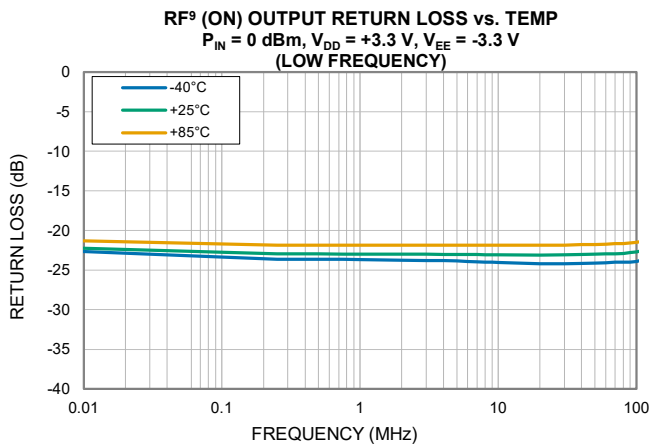
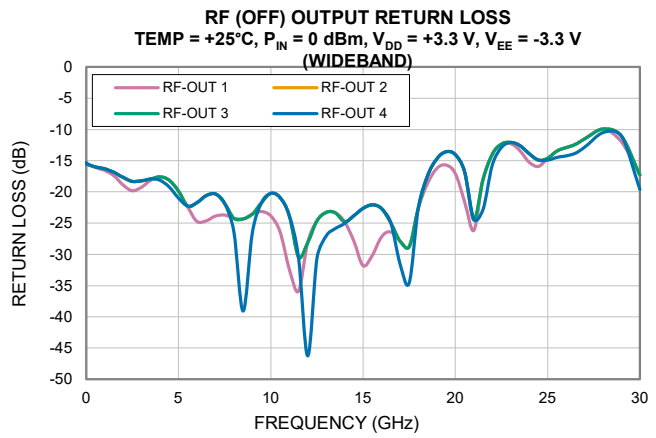
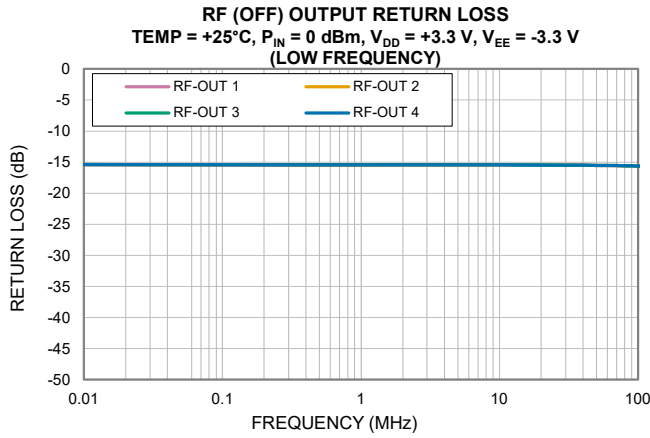
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(WIDEBAND)



6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.



### TYPICAL PERFORMANCE GRAPHS

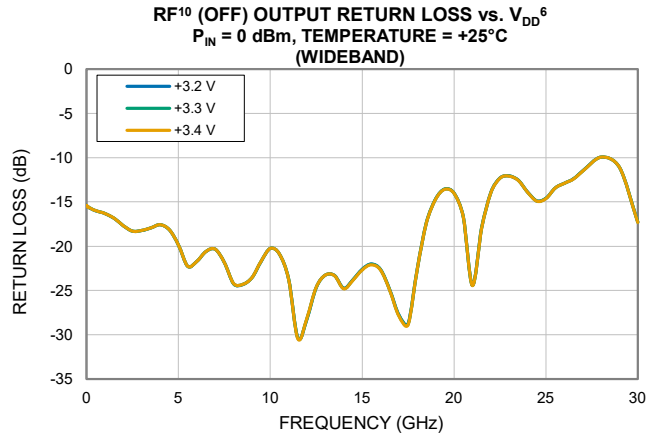
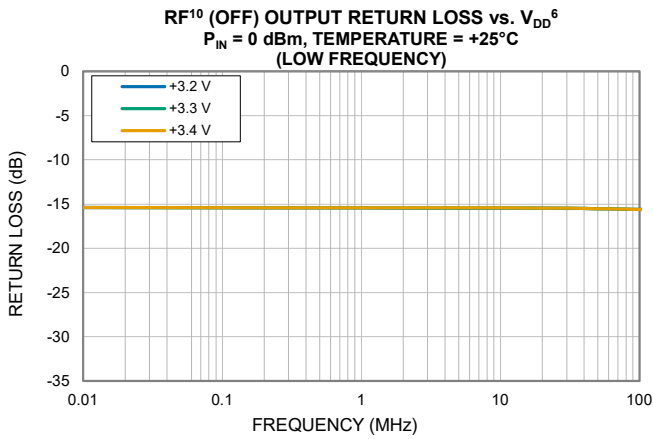
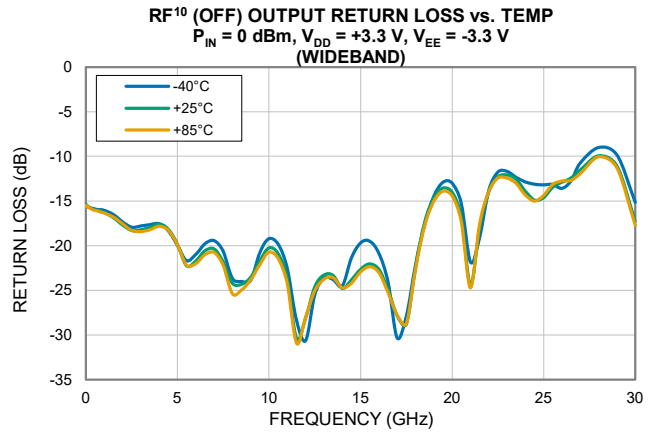
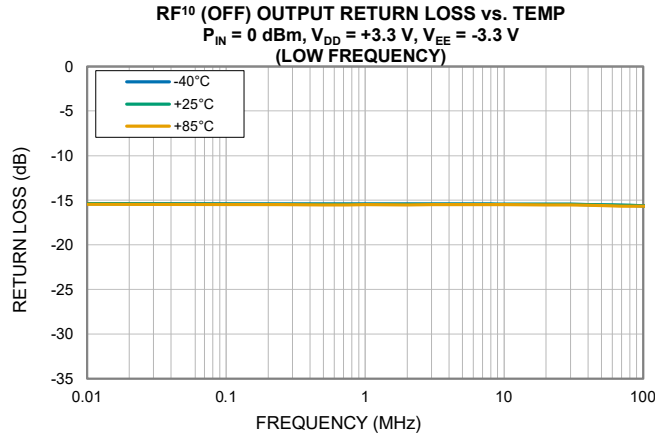


6. V<sub>EE</sub> is the negative equivalent value to V<sub>DD</sub>. Both V<sub>DD</sub> and V<sub>EE</sub> are varied.

9. RF-OUT defined as the worst of RF-OUT 1 (ON), RF-OUT 2 (ON), RF-OUT 3 (ON), or RF-OUT 4 (ON)



### TYPICAL PERFORMANCE GRAPHS



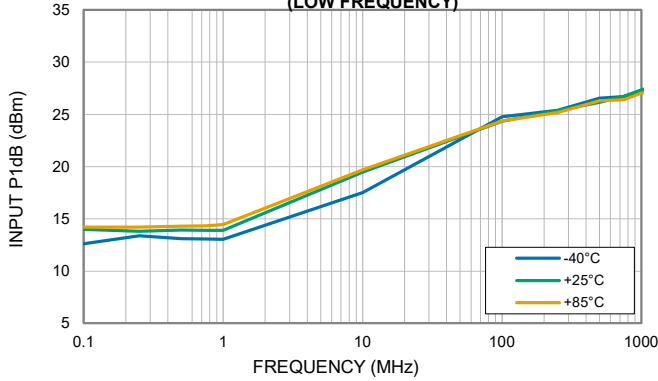
6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.

10. RF-OUT defined as the worst of RF-OUT 1 (OFF), RF-OUT 2 (OFF), RF-OUT 3 (OFF), or RF-OUT 4 (OFF)

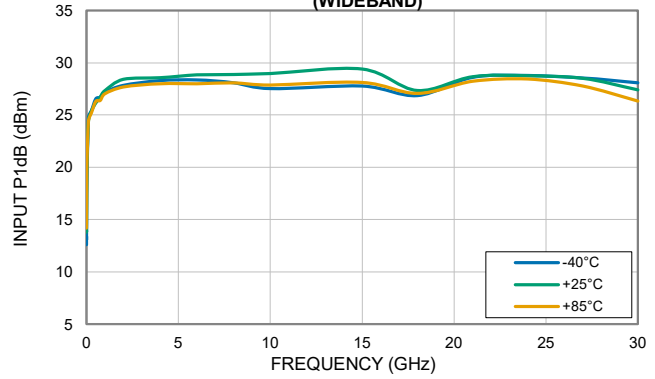


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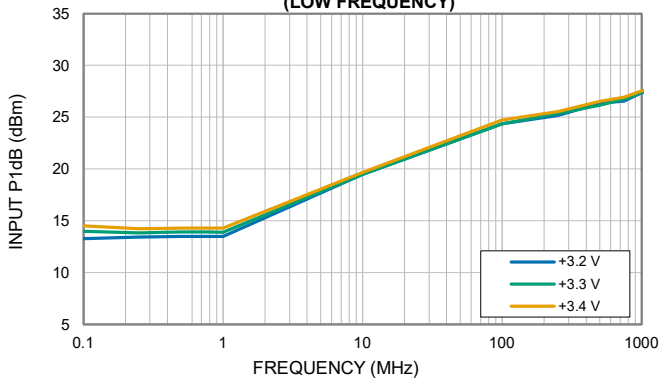
**INPUT P1dB vs. TEMPERATURE**  
 $V_{DD} = +3.3\text{ V}, V_{EE} = -3.3\text{ V}$   
(LOW FREQUENCY)



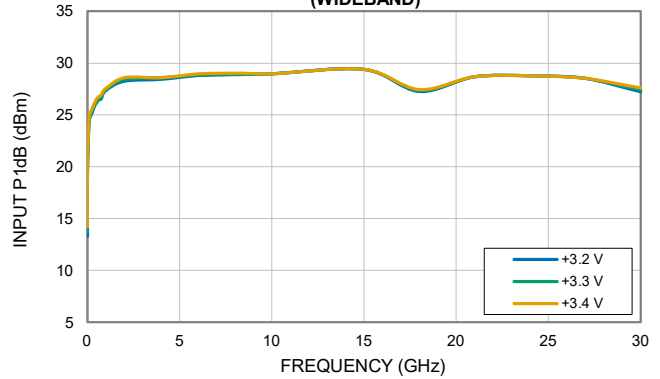
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 $V_{DD} = +3.3\text{ V}, V_{EE} = -3.3\text{ V}$   
(WIDEBAND)



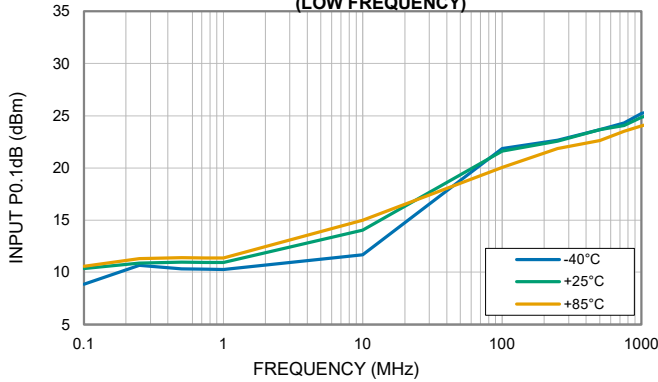
**INPUT P1dB vs.  $V_{DD}$ <sup>6</sup>**  
TEMPERATURE = +25°C  
(LOW FREQUENCY)



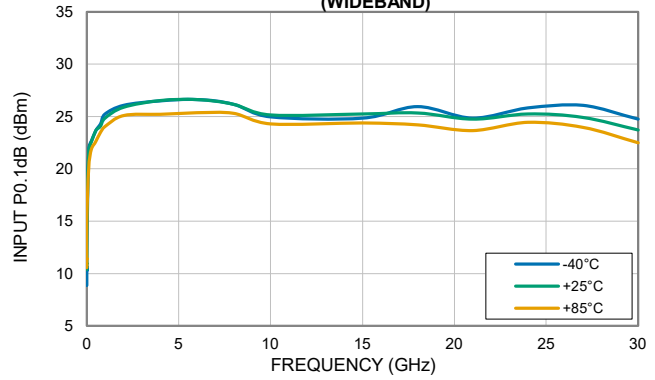
**INPUT P1dB vs.  $V_{DD}$ <sup>6</sup>**  
TEMPERATURE = +25°C  
(WIDEBAND)



**INPUT P0.1dB vs. TEMPERATURE**  
 $V_{DD} = +3.3\text{ V}, V_{EE} = -3.3\text{ V}$   
(LOW FREQUENCY)



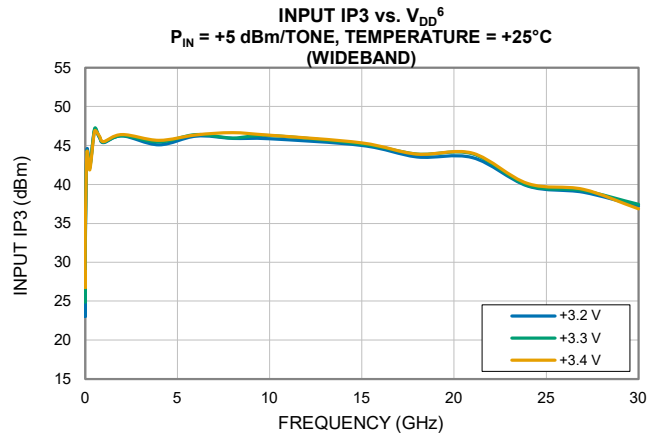
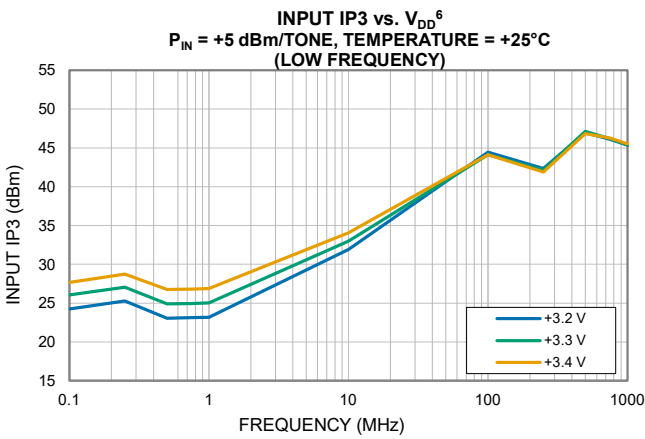
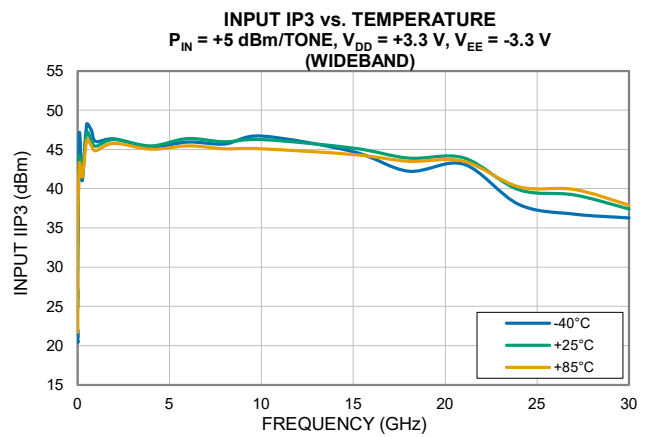
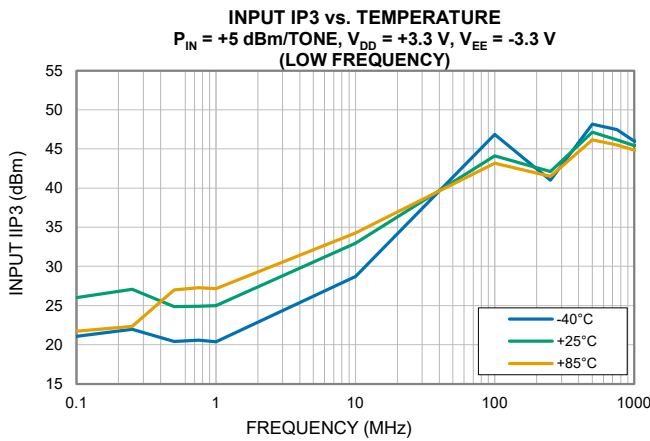
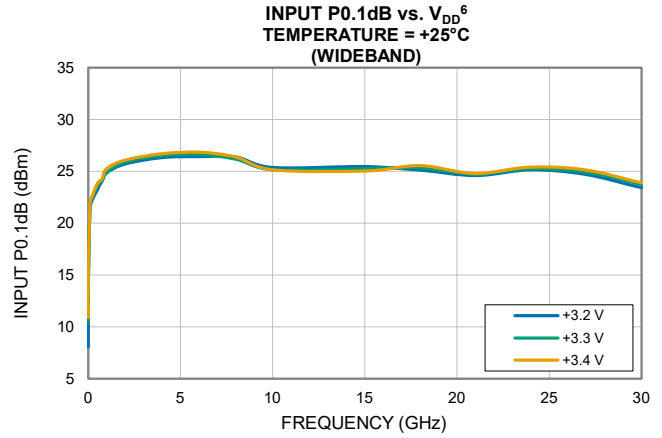
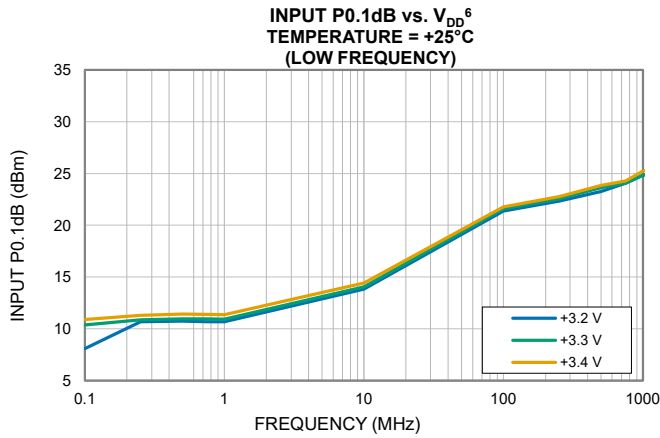
**INPUT P0.1dB vs. TEMPERATURE**  
 $V_{DD} = +3.3\text{ V}, V_{EE} = -3.3\text{ V}$   
(WIDEBAND)



6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.



### TYPICAL PERFORMANCE GRAPHS



6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.



MMIC SURFACE MOUNT

# SP4T RF Switch

## M4SWA4-34DR+

50Ω DC to 30 GHz Absorptive RF Switch with Internal Driver

### ABSOLUTE MAXIMUM RATINGS<sup>11</sup>

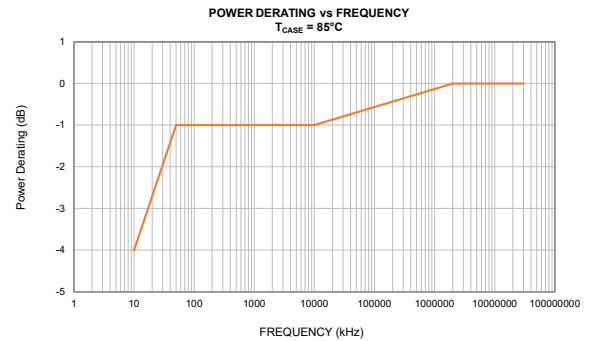
Parameter	Ratings
Operating Temperature (ground lead)	-40°C to +85°C
Storage Temperature	-65°C to +150°C
Junction Temperature <sup>12</sup>	+150°C
Total Power Dissipation	0.33 W
Through Path @ +85°C <sup>13</sup> Input Power at RFC (CW), (V <sub>DD</sub> = +3.3 V, V <sub>EE</sub> = -3.3 V)	+30 dBm
Input Power at RF-OUT 1/2/3/4 <sup>13</sup> (CW), RF Applied to one of the Unselected Ports (V <sub>DD</sub> = +3.3 V, V <sub>EE</sub> = -3.3 V)	+30 dBm
Input Power at RF-OUT 1/2/3/4 <sup>13</sup> (CW), RF Applied to the Selected Port (V <sub>DD</sub> = +3.3 V, V <sub>EE</sub> = -3.3 V)	+30 dBm
Hot Switching @ +85°C <sup>13</sup> Input Power at RFC (CW), (V <sub>DD</sub> = +3.3 V, V <sub>EE</sub> = -3.3 V)	+30 dBm
DC Voltage (V <sub>DD</sub> )	0 V to +5 V
DC Voltage (V <sub>EE</sub> )	-5 V to 0 V

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

12. Peak temperature on top of Die

13. See derating curve at right for power derating over frequency.

### POWER DERATING VS. FREQUENCY



### THERMAL RESISTANCE

Parameter	Condition	Ratings
Thermal Resistance (Θ <sub>JC</sub> ) <sup>14</sup>	Through Path RFC to RF-OUT 1	86.9°C/W
	Through Path RF-OUT 1 to RFC	55.7°C/W
	Termination Path	77.1°C/W

14. Θ<sub>JC</sub> = (Hot Spot Temperature on Die - Temperature at Ground Lead)/Dissipated Power

### ESD RATING

	Class	Voltage Range	Reference Standard
HBM	1B	500 V to < 1000 V	ANSI/ESDA/JEDEC JS-001-2023



ESD HANDLING PRECAUTION: This device is designed to be Class 1B 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 (TOP VIEW)

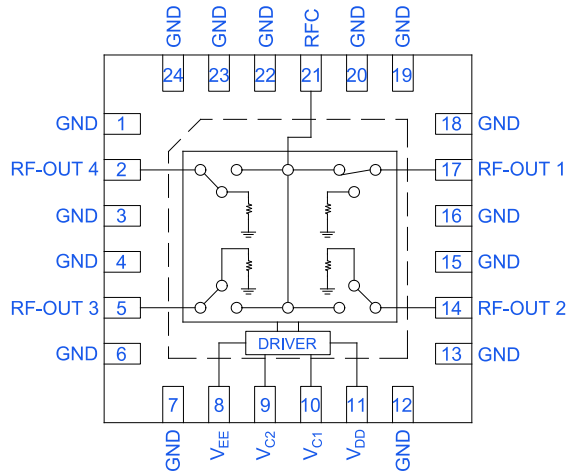


Figure 1. M4SWA4-34DR+ Functional Diagram

### PAD DESCRIPTION

Function	Pad Number	Application Description (Refer to Fig 2)
RFC	21	RFC Pad connects to RF Input port.
RF-OUT 1	17	RF-OUT 1 Pad connects to RF Output port 1.
RF-OUT 2	14	RF-OUT 2 Pad connects to RF Output port 2.
RF-OUT 3	5	RF-OUT 3 Pad connects to RF Output port 3.
RF-OUT 4	2	RF-OUT 4 Pad connects to RF Output port 4.
V <sub>DD</sub>	11	V <sub>DD</sub> Pad connects to positive DC Input.
V <sub>EE</sub>	8	V <sub>EE</sub> Pad connects to negative DC Input.
V <sub>C1</sub>	10	V <sub>C1</sub> Pad connects to switch control voltage input 1.
V <sub>C2</sub>	9	V <sub>C2</sub> Pad connects to switch control voltage input 2.
GND	1, 3-4, 6-7, 12-13, 15-16, 18-20, 22-24, & Paddle	Connects to ground.

### CHARACTERIZATION TEST BOARD<sup>14</sup>

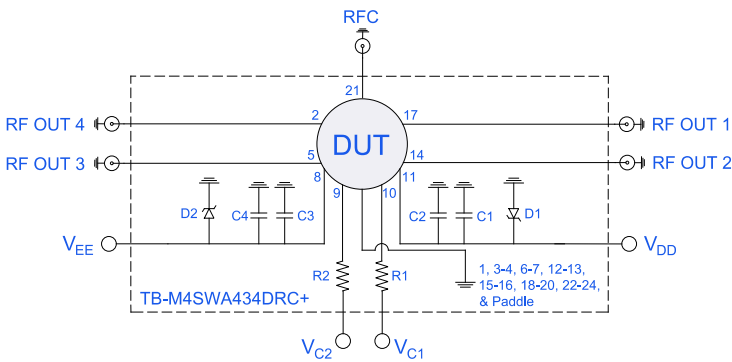


Figure 2. M4SWA4-34DR+ Characterization and Application Circuit

14. Support components are included on the evaluation board for filtering and protection of the device. Support circuitry may vary based on the user's application and may not be required in all cases if clean, known voltages are supplied.

#### Electrical Parameters and Conditions

Insertion Loss, Isolation, Return Loss, Input Power at 1dB Compression (P<sub>1dB</sub>), and Input IP3 tested using PNA-X N5247B microwave network analyzer and P5022A vector network analyzer.

#### Conditions:

1. Insertion Loss, Isolation, and Return Loss: P<sub>IN</sub> = 0 dBm
2. Input IP3 (IIP3): Two tones, spaced 1 MHz apart, +5 dBm/Tone at input.

Component	Value	Size	Part Number	Manufacturer
C2, C3	100 pF	0402	GRM1555C1H101JA01D	Murata
C1, C4	0.1 uF	0402	GRM155R71C104KA88D	Murata
R1, R2	100 Ω	0402	RK73H1ETTP1000F	KOA Speer
D1, D2	V <sub>Z</sub> = +5.1 V	SOD-123	MMSZ5231BT1G	ON Semiconductor



MMIC SURFACE MOUNT

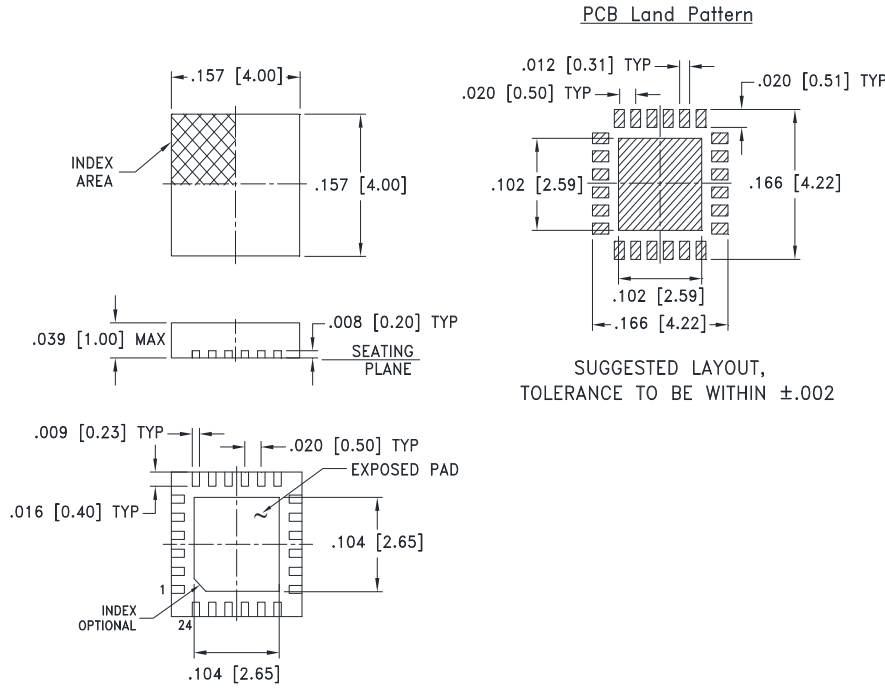
# SP4T RF Switch

## M4SWA4-34DR+

Mini-Circuits

50Ω DC to 30 GHz Absorptive RF Switch with Internal Driver

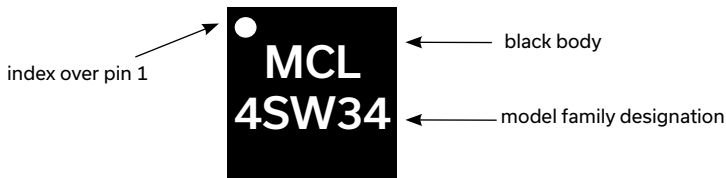
### CASE STYLE DRAWING



Weight: .04 Grams

Dimensions are in inches [mm]. Tolerances in inches: 2 Pl. ± .01; 3 Pl. ± .005 inches

### PRODUCT MARKING



Marking may contain other features or characters for internal lot control



MMIC SURFACE MOUNT

# SP4T RF Switch

## M4SWA4-34DR+

50Ω DC to 30 GHz Absorptive RF Switch with Internal Driver

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

<b>Performance Data &amp; Graphs</b>	Data Graphs S-Parameter (S5P Files) Data Set (.zip file)
<b>Case Style</b>	DG1847. Plastic package, exposed paddle, Lead Finish: Matte-Tin
<b>RoHS Status</b>	Compliant
<b>Tape &amp; Reel</b> Standard quantities available on reel	F68 7" reels with 20, 50, 100, 200, 500, or 1000 devices 13" reels with 2000, 3000, or 4000 devices
<b>Suggested Layout for PCB Design</b>	PL-830
<b>Evaluation Board</b>	TB-M4SWA434DRC+ Gerber File
<b>Environmental Ratings</b>	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 (Low Frequency)

Definitions:

STATE	V <sub>C1</sub>	V <sub>C2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.2V, V<sub>EE</sub> = -3.2V @ Temperature = +25°C

FREQ	Insertion Loss				Isolation									
	RFC - RF-OUT 1	RFC - RF-OUT 2	RFC - RF-OUT 3	RFC - RF-OUT 4	RFC - RF-OUT 1	RFC - RF-OUT 2	RFC - RF-OUT 3	RFC - RF-OUT 4	RF-OUT1 - RF-OUT2	RF-OUT1 - RF-OUT3	RF-OUT1 - RF-OUT4	RF-OUT2 - RF-OUT3	RF-OUT2 - RF-OUT4	RF-OUT3 - RF-OUT4
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.009	0.87	0.87	0.86	0.85	78.15	77.64	79.76	79.53	78.13	79.75	79.75	80.30	81.47	79.28
0.25	0.86	0.86	0.86	0.85	80.61	80.46	80.71	80.21	81.48	81.64	82.26	82.58	82.07	81.63
0.5	0.86	0.86	0.86	0.85	80.38	80.77	80.94	80.63	81.80	82.01	81.91	82.09	82.26	81.64
0.75	0.86	0.87	0.86	0.85	80.54	80.87	80.64	80.68	81.85	82.10	82.03	82.29	82.24	81.61
1	0.86	0.87	0.86	0.85	80.58	80.78	80.93	80.78	81.82	82.33	81.89	81.95	82.10	81.91
2	0.85	0.86	0.86	0.85	80.71	80.92	80.97	80.66	81.81	82.13	82.22	82.33	82.29	81.68
3	0.85	0.86	0.85	0.85	80.69	80.84	80.83	80.69	81.87	82.39	82.42	82.16	82.21	81.79
4	0.85	0.86	0.85	0.85	80.53	80.95	80.90	80.57	81.50	82.29	82.31	82.26	82.18	81.54
5	0.85	0.86	0.85	0.84	80.46	80.86	80.86	80.46	81.53	82.33	82.50	82.26	82.25	81.37
6	0.85	0.86	0.85	0.84	80.27	80.67	80.92	80.33	81.24	82.34	82.31	82.21	82.17	81.24
7	0.84	0.86	0.85	0.84	80.08	80.47	80.69	80.28	80.97	82.07	82.27	82.01	82.11	80.74
8	0.84	0.86	0.85	0.84	79.80	80.27	80.51	79.92	80.74	81.92	82.10	81.78	82.13	80.56
9	0.84	0.86	0.85	0.84	79.61	79.89	80.18	79.79	80.49	81.77	82.06	81.67	81.76	80.25
10	0.84	0.86	0.85	0.84	79.25	79.81	80.05	79.58	80.23	81.68	81.60	81.47	81.69	80.02
20	0.84	0.86	0.85	0.84	77.07	77.74	77.97	77.22	77.80	79.66	80.00	79.55	79.66	77.31
30	0.84	0.86	0.86	0.85	75.74	76.36	76.64	75.99	76.38	78.31	78.85	78.31	78.40	75.85
40	0.84	0.86	0.86	0.85	75.10	75.59	75.99	75.29	75.73	77.71	78.45	77.60	77.74	75.03
50	0.84	0.86	0.86	0.85	74.80	75.22	75.56	74.94	75.30	77.32	78.22	77.32	77.44	74.58
60	0.84	0.86	0.86	0.85	74.71	75.15	75.47	74.89	75.17	77.25	78.23	77.08	77.35	74.39
70	0.84	0.86	0.86	0.85	74.69	74.94	75.45	75.05	75.14	77.19	78.28	77.15	77.21	74.33
80	0.85	0.87	0.86	0.85	74.75	75.12	75.53	75.14	75.15	77.39	78.47	77.16	77.28	74.26
90	0.85	0.87	0.86	0.85	74.98	75.14	75.60	75.34	75.12	77.38	78.53	77.18	77.44	74.30
100	0.85	0.87	0.86	0.85	75.01	75.31	75.71	75.46	75.10	77.52	78.83	77.26	77.53	74.37

*Typical Performance Data (Low Frequency)*

**Definitions:**

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.2V, V<sub>EE</sub> = -3.2V @ Temperature = +25°C

FREQ	Return Loss								
	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (Off)	RF-OUT 2 (Off)	RF-OUT 3 (Off)	RF-OUT 4 (Off)	RF-OUT 4 (Off)
	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.009	20.73	21.09	21.12	22.04	22.07	15.44	15.38	14.97	14.98
0.25	21.42	21.88	21.90	22.85	22.88	15.48	15.44	15.01	15.02
0.5	21.42	21.88	21.90	22.85	22.87	15.49	15.44	15.01	15.02
0.75	21.42	21.88	21.90	22.86	22.87	15.48	15.45	15.01	15.03
1	21.43	21.88	21.92	22.87	22.88	15.48	15.44	15.01	15.03
2	21.45	21.93	21.95	22.91	22.92	15.47	15.45	15.01	15.04
3	21.47	21.94	21.95	22.91	22.92	15.46	15.46	15.01	15.05
4	21.47	21.96	21.97	22.93	22.93	15.46	15.46	15.02	15.05
5	21.47	21.99	21.99	22.94	22.95	15.46	15.46	15.02	15.04
6	21.47	22.02	22.00	22.95	22.96	15.45	15.46	15.02	15.04
7	21.48	22.03	22.02	22.97	22.98	15.46	15.46	15.03	15.05
8	21.48	22.04	22.02	22.98	22.99	15.46	15.46	15.03	15.05
9	21.49	22.05	22.03	22.99	23.00	15.45	15.47	15.04	15.06
10	21.51	22.05	22.04	23.01	23.02	15.45	15.47	15.05	15.07
20	21.54	22.09	22.08	23.05	23.04	15.47	15.49	15.07	15.08
30	21.52	22.06	22.08	23.04	23.02	15.48	15.49	15.08	15.09
40	21.52	22.01	22.06	23.00	22.98	15.51	15.51	15.09	15.10
50	21.50	21.97	22.04	22.98	22.96	15.53	15.52	15.11	15.13
60	21.46	21.92	22.02	22.94	22.92	15.55	15.54	15.12	15.14
70	21.41	21.87	21.97	22.89	22.86	15.58	15.55	15.14	15.16
80	21.35	21.81	21.93	22.85	22.82	15.60	15.58	15.16	15.18
90	21.29	21.76	21.86	22.78	22.75	15.62	15.59	15.18	15.20
100	21.23	21.71	21.80	22.72	22.67	15.63	15.61	15.20	15.22

Typical Performance Data

Definitions:

STATE	V <sub>C1</sub>	V <sub>C2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub>= +3.2V, V<sub>EE</sub> = -3.2V @ Temperature = +25°C

FREQ	Insertion Loss				Isolation									
	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT1 - RF-OUT2	RF-OUT1 - RF-OUT3	RF-OUT1 - RF-OUT4	RF-OUT2 - RF-OUT3	RF-OUT2 - RF-OUT4	RF-OUT3 - RF-OUT4
(GHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.01	0.84	0.85	0.86	0.84	72.74	74.95	75.55	72.97	75.36	78.09	76.94	77.20	75.73	80.71
0.05	0.84	0.86	0.86	0.85	73.27	74.08	76.19	74.15	75.27	78.75	80.05	76.19	75.92	74.97
0.1	0.84	0.86	0.86	0.85	74.97	76.04	74.04	76.00	75.00	77.57	78.96	77.34	77.82	74.01
0.2	0.85	0.87	0.88	0.86	74.48	77.04	77.10	75.01	73.49	79.94	82.40	79.56	80.14	73.25
0.4	0.88	0.90	0.91	0.90	70.18	79.93	80.11	70.49	67.64	85.13	83.51	81.30	87.28	68.72
0.6	0.92	0.94	0.95	0.94	66.09	76.33	77.91	67.80	65.16	83.70	83.86	80.55	83.18	64.63
0.8	0.97	0.99	1.00	0.99	63.97	73.72	74.03	64.98	62.56	80.13	80.61	77.77	79.53	62.31
1.0	1.02	1.04	1.05	1.04	62.01	71.45	72.40	63.36	60.75	77.13	78.63	75.86	78.49	60.56
1.5	1.13	1.15	1.16	1.14	58.87	68.26	68.96	60.20	57.58	74.88	75.91	73.04	75.30	57.34
2.0	1.19	1.21	1.23	1.20	56.94	66.23	66.62	58.35	55.45	74.20	73.40	71.50	74.00	55.20
2.5	1.22	1.25	1.26	1.23	55.61	64.76	65.44	57.05	53.87	71.39	72.75	70.05	73.03	53.66
3.0	1.21	1.25	1.26	1.23	54.69	63.78	64.38	56.14	52.75	70.14	70.52	69.07	72.18	52.58
3.5	1.24	1.29	1.31	1.27	54.10	62.93	63.63	55.65	51.93	69.46	69.02	69.03	71.21	51.73
4.0	1.35	1.39	1.41	1.39	53.67	62.43	62.90	55.22	51.22	68.23	67.68	69.79	71.09	50.99
4.5	1.47	1.47	1.49	1.49	53.38	61.73	61.33	55.00	50.55	66.73	66.51	68.91	69.62	50.34
5.0	1.50	1.49	1.51	1.50	53.13	60.51	59.36	54.87	49.82	65.23	65.01	68.56	68.25	49.65
5.5	1.48	1.47	1.49	1.48	53.02	58.83	57.90	54.74	49.07	63.69	63.58	68.18	66.41	48.93
6.0	1.47	1.46	1.49	1.47	52.26	57.32	56.80	54.32	48.37	62.48	62.42	68.17	65.07	48.30
6.5	1.48	1.49	1.51	1.49	51.74	56.06	55.88	53.45	47.69	62.09	61.62	68.10	64.88	47.74
7.0	1.53	1.57	1.58	1.59	51.26	54.98	54.96	52.87	47.21	61.96	61.52	68.81	64.46	47.33
7.5	1.60	1.64	1.64	1.69	50.60	54.22	54.24	52.53	46.95	61.58	61.36	70.15	64.31	47.04
8.0	1.61	1.62	1.62	1.68	49.92	53.30	53.46	51.80	46.62	60.30	60.47	70.47	62.80	46.74
8.5	1.58	1.58	1.58	1.61	49.31	52.54	52.74	50.73	46.17	59.27	59.74	71.07	61.68	46.36
9.0	1.59	1.55	1.56	1.59	48.65	51.80	52.00	49.61	45.70	58.59	59.20	71.82	60.78	45.92
9.5	1.69	1.63	1.63	1.67	47.92	51.34	51.04	48.92	45.41	58.38	59.73	73.37	60.85	45.77
10.0	1.81	1.77	1.75	1.82	47.32	50.95	50.25	48.67	45.58	58.59	60.59	75.11	60.96	45.90
10.5	1.82	1.82	1.79	1.87	47.02	50.39	49.73	48.59	45.72	58.37	60.69	75.79	60.65	46.09
11.0	1.77	1.77	1.75	1.83	46.98	49.66	49.36	48.15	45.65	57.73	60.35	75.71	59.99	46.04
11.5	1.71	1.72	1.71	1.77	46.81	48.92	49.06	47.43	45.50	57.22	59.87	78.64	59.44	45.97
12.0	1.71	1.70	1.69	1.76	46.22	48.12	48.44	46.57	45.48	56.81	59.52	79.79	59.27	46.00
12.5	1.79	1.74	1.73	1.82	45.50	47.63	47.70	46.02	45.64	56.72	59.21	77.47	59.21	46.23
13.0	1.91	1.82	1.82	1.92	45.10	47.35	47.24	45.76	45.92	56.76	58.79	75.38	59.33	46.62
13.5	2.05	1.93	1.93	2.06	44.98	47.23	46.98	45.57	46.54	56.91	58.65	73.55	59.65	47.31
14.0	2.15	2.02	2.02	2.20	45.02	47.12	46.90	45.41	47.37	57.42	58.70	71.80	60.37	48.24
14.5	2.17	2.05	2.05	2.27	44.87	46.83	46.64	45.16	48.09	57.87	58.87	70.80	60.82	48.56
15.0	2.13	2.02	2.01	2.20	44.54	46.53	46.25	44.78	48.40	57.93	58.62	70.17	61.09	48.74
15.5	2.06	1.98	1.97	2.11	44.18	46.14	45.87	44.40	48.64	57.69	58.02	67.90	60.93	48.94
16.0	2.06	1.96	1.96	2.10	43.97	45.87	45.66	44.05	49.31	57.81	57.59	66.25	61.14	49.18
16.5	2.12	1.97	1.99	2.16	43.72	45.68	45.57	43.72	49.58	57.90	57.70	66.21	61.63	49.49
17.0	2.22	2.03	2.05	2.27	43.42	45.55	45.47	43.43	49.95	58.45	58.17	66.90	62.50	49.84
17.5	2.39	2.15	2.16	2.46	43.11	45.49	45.36	43.26	50.32	58.59	58.83	67.56	63.44	50.28
18.0	2.61	2.32	2.31	2.67	43.09	45.51	45.20	43.13	50.86	59.54	60.05	68.63	64.65	50.80
18.5	2.70	2.41	2.42	2.75	43.06	45.55	45.03	43.08	51.49	60.41	61.70	69.49	66.18	50.20
19.0	2.57	2.42	2.40	2.63	43.15	45.57	44.85	42.93	50.68	61.11	63.12	70.51	67.32	49.57
19.5	2.36	2.41	2.33	2.43	43.14	45.54	44.94	42.82	51.20	60.77	62.87	70.79	65.91	50.16
20.0	2.21	2.29	2.22	2.29	42.88	45.57	45.06	42.59	52.57	58.90	60.91	71.41	63.29	51.42
20.5	2.37	2.24	2.22	2.43	42.65	45.67	45.25	42.40	52.52	57.45	59.59	72.02	61.31	51.06
21.0	2.66	2.38	2.36	2.73	42.67	45.61	45.06	42.31	51.35	57.55	59.77	73.54	61.81	50.12
21.5	2.72	2.48	2.48	2.80	42.74	45.48	44.94	42.33	51.15	58.65	60.74	73.83	63.67	50.13
22.0	2.71	2.63	2.67	2.78	43.04	45.57	45.09	42.47	52.37	59.48	61.20	74.45	64.77	51.56
22.5	2.81	2.89	2.91	2.89	43.17	45.90	45.30	42.57	54.87	59.03	60.70	71.78	64.04	53.94
23.0	2.86	2.99	2.96	2.95	43.02	46.10	45.24	42.44	57.47	58.07	60.17	69.29	62.64	56.33
23.5	2.86	3.01	2.94	2.97	42.83	46.00	44.98	42.24	57.65	57.07	59.85	67.67	61.25	57.74
24.0	2.82	2.97	2.92	2.92	42.60	45.74	44.61	42.04	54.93	56.31	59.26	66.34	59.93	54.66
24.5	2.79	2.93	2.93	2.88	42.41	45.71	44.50	41.83	52.84	55.86	58.48	66.97	59.25	52.47
25.0	2.91	3.00	3.04	2.99	42.49	45.86	44.61	41.72	51.84	55.70	57.80	67.47	59.50	51.49
25.5	3.15	3.23	3.29	3.22	42.85	46.03	44.70	41.80	51.45	56.12	57.64	68.69	60.11	50.76
26.0	3.33	3.46	3.48	3.36	43.13	46.16	44.83	41.89	50.41	56.73	57.56	69.02	60.86	49.28
26.5	3.32	3.50	3.50	3.31	43.01	46.16	44.75	41.77	48.93	56.96	57.24	68.08	60.37	47.62
27.0	3.31	3.49	3.52	3.25	42.62	46.14	44.53	41.49	47.88	56.87	56.78	66.98	59.83	46.43
28.0	3.51	3.77	3.83	3.37	42.21	45.72	43.75	40.85	46.18	56.51	55.87	65.22	58.62	44.46
29.0	3.16	3.15	3.15	3.17	41.27	44.08	42.63	39.13	44.11	54.81	53.50	62.25	55.80	42.44
30.0	3.11	2.97	2.99	3.19	41.20	43.21	41.38	39.12	43.76	54.86	52.06	59.53	55.76	41.90

Typical Performance Data

Definitions:

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.2V, V<sub>EE</sub> = -3.2V @ Temperature = +25°C

FREQ	Return Loss								
	RF	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (Off)	RF-OUT 2 (Off)	RF-OUT 3 (Off)	RF-OUT 4 (Off)
	(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.01	22.11	21.97	21.88	21.86	21.91	15.33	15.37	15.37	15.38
0.05	22.09	22.04	22.06	22.02	22.03	15.46	15.49	15.49	15.49
0.1	21.84	21.96	21.94	21.90	21.89	15.55	15.60	15.61	15.61
0.2	21.32	21.52	21.57	21.55	21.49	15.72	15.73	15.73	15.76
0.4	20.56	20.91	21.16	21.14	20.76	15.97	15.92	15.91	16.05
0.6	20.01	20.21	20.72	20.69	19.92	16.20	16.06	16.05	16.34
0.8	19.26	19.73	20.45	20.44	19.32	16.37	16.18	16.15	16.63
1.0	18.57	19.46	20.36	20.30	19.02	16.56	16.31	16.26	16.95
1.5	18.03	18.92	20.21	19.96	18.98	17.40	16.86	16.80	18.02
2.0	19.36	20.09	21.52	21.04	20.73	18.90	17.68	17.68	19.16
2.5	21.60	21.86	23.04	22.31	22.72	19.83	18.31	18.42	19.46
3.0	20.93	22.09	22.17	21.41	22.44	19.26	18.24	18.42	18.69
3.5	18.01	20.80	19.91	19.24	19.87	18.13	17.94	18.22	18.06
4.0	16.10	18.11	17.94	17.45	17.40	17.59	18.15	18.51	18.33
4.5	15.28	16.36	17.24	16.87	16.49	18.15	19.23	19.69	19.77
5.0	15.62	16.22	18.06	17.63	17.27	19.85	21.00	21.56	22.26
5.5	16.79	17.44	20.09	19.42	19.53	22.44	22.26	23.18	24.21
6.0	18.18	19.04	21.43	20.58	21.54	24.73	21.73	23.14	22.95
6.5	17.39	19.13	19.56	19.12	19.89	24.65	20.60	22.37	20.94
7.0	15.18	18.28	17.06	17.17	16.77	23.87	20.35	22.42	20.11
7.5	14.13	18.01	16.74	17.28	15.68	23.74	21.82	24.41	20.98
8.0	15.39	19.44	19.43	20.24	17.53	24.23	26.30	30.60	24.40
8.5	18.31	20.95	22.87	23.31	20.90	24.33	39.16	39.03	33.73
9.0	19.71	18.97	25.12	25.79	22.31	23.55	26.55	26.35	30.80
9.5	15.51	16.12	20.37	20.62	19.24	23.14	21.70	22.81	24.61
10.0	13.27	15.36	16.38	17.03	16.20	23.84	20.25	22.41	23.12
10.5	13.36	17.39	16.78	18.38	16.68	26.32	20.88	24.25	24.28
11.0	15.76	22.23	19.72	22.45	20.01	32.26	23.73	28.10	28.42
11.5	18.98	27.36	22.18	25.76	23.41	35.99	30.35	29.52	39.72
12.0	18.89	24.21	24.41	37.29	23.05	28.17	46.34	26.43	36.02
12.5	17.02	18.87	22.62	24.40	20.17	24.65	30.63	24.64	30.40
13.0	15.43	15.97	19.35	19.36	18.10	23.28	27.05	24.67	29.38
13.5	13.63	15.01	17.79	17.91	16.89	23.32	25.90	25.97	29.57
14.0	12.13	16.18	17.88	18.94	16.18	24.75	25.04	27.97	28.50
14.5	11.93	18.91	19.67	21.50	16.30	27.83	23.78	29.13	25.94
15.0	13.72	20.76	22.83	25.43	18.16	31.70	22.59	28.86	24.15
15.5	16.70	21.09	22.86	26.68	20.70	30.10	22.02	27.76	23.36
16.0	18.30	20.16	23.03	24.63	22.26	27.12	22.63	27.43	24.06
16.5	16.72	19.76	28.25	24.81	22.50	26.36	24.93	28.47	26.79
17.0	15.11	19.21	28.16	24.49	19.37	27.78	31.39	31.48	33.54
17.5	12.56	16.68	19.99	20.68	15.93	28.69	34.53	31.63	29.05
18.0	10.68	14.81	17.26	18.48	14.49	22.48	22.44	25.07	21.92
18.5	9.95	16.37	19.56	20.31	16.05	18.55	17.32	19.86	17.65
19.0	10.92	26.82	21.97	29.09	25.76	16.20	14.65	16.97	15.28
19.5	12.15	24.54	14.83	17.85	21.87	15.68	13.54	15.62	14.30
20.0	15.59	23.31	14.47	16.99	20.05	17.02	14.02	16.15	15.07
20.5	19.17	22.35	19.70	24.74	21.59	21.56	16.74	18.99	18.32
21.0	11.83	17.05	21.07	28.15	16.51	26.08	24.41	23.48	27.75
21.5	10.49	19.94	27.23	35.83	18.47	17.94	22.70	18.94	20.49
22.0	11.47	32.60	20.49	18.10	41.05	13.94	15.62	14.74	14.73
22.5	11.53	17.40	13.60	13.29	17.62	12.30	12.85	12.95	12.45
23.0	11.64	14.47	11.73	12.28	14.09	12.24	12.07	12.87	12.08
23.5	11.26	14.06	11.63	12.85	13.53	13.40	12.58	14.00	13.13
24.0	11.28	15.70	12.75	13.87	14.87	15.23	13.88	15.00	14.90
24.5	13.58	18.29	14.27	14.26	17.22	15.89	14.88	14.71	15.84
25.0	14.59	17.99	14.57	13.71	17.28	14.58	14.88	13.91	15.09
25.5	11.52	15.47	13.61	12.78	15.16	13.43	14.45	13.55	13.92
26.0	9.68	14.03	12.91	12.77	14.07	12.88	14.22	14.05	13.54
26.5	9.68	13.79	12.66	13.15	14.49	12.40	13.78	14.34	13.55
27.0	10.59	13.35	12.24	12.25	15.21	11.51	12.84	12.97	13.28
28.0	8.81	11.83	10.84	10.34	14.42	9.93	10.49	10.04	11.80
29.0	12.85	17.11	18.89	18.84	18.67	12.04	11.12	10.93	12.35
30.0	18.31	23.78	21.85	19.97	19.88	17.27	19.62	20.81	19.48

Typical Performance Data

Definitions:

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.2V, V<sub>EE</sub> = -3.2V @ Temperature = +25°C

FREQ	Input Power at 1 dB Compression				Input Power at 0.1 dB Compression				Input IIP3			
	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)
(GHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
0.00010	13.46	13.47	13.45	13.27	8.07	9.35	9.49	9.48	24.41	24.54	24.36	24.24
0.00025	13.62	13.43	13.59	13.60	10.68	10.70	10.65	10.65	25.55	25.71	25.25	25.45
0.0005	13.52	13.53	13.49	13.50	10.73	10.75	10.72	10.72	23.13	23.20	23.06	23.16
0.00075	13.50	13.50	13.48	13.48	10.69	10.71	10.68	10.68	23.25	23.25	23.14	23.26
0.001	13.48	13.48	13.46	13.67	10.68	10.69	10.66	10.66	23.35	23.30	23.19	23.38
0.01	19.92	19.51	19.50	20.11	13.83	13.20	13.18	13.81	33.18	31.90	31.91	33.15
0.10	24.70	24.36	24.36	24.36	21.38	21.03	21.03	21.04	44.43	44.58	44.56	44.50
0.25	25.87	25.17	25.17	25.56	22.35	21.83	21.23	22.03	42.33	42.64	44.30	43.54
0.5	26.96	26.34	26.34	26.75	23.25	22.43	22.23	23.02	47.12	47.21	47.49	46.96
0.8	26.76	26.56	26.56	26.77	24.07	22.89	22.89	23.68	46.76	46.29	46.12	46.59
1.0	27.41	27.36	27.36	27.42	24.84	24.00	24.00	25.00	45.72	45.46	45.35	45.60
2.0	28.44	28.41	28.25	28.43	25.69	25.29	25.30	25.69	46.28	46.35	46.39	46.22
4.0	28.44	28.59	28.59	28.44	26.33	25.97	25.78	26.33	45.98	45.38	46.25	45.08
6.0	28.79	28.97	28.97	28.84	26.42	26.19	26.21	26.45	46.20	47.07	46.83	46.47
8.0	28.89	29.13	29.13	29.12	26.38	26.26	26.06	26.24	46.64	46.00	46.06	45.92
10.0	28.96	29.03	29.02	29.21	25.36	25.60	25.37	25.41	45.94	46.41	46.39	45.85
15.0	29.39	29.41	29.58	29.50	25.45	25.23	25.65	25.30	45.52	45.52	45.61	45.02
18.0	27.56	27.25	27.38	27.67	25.11	24.84	24.90	25.13	43.53	44.21	44.62	44.04
21.0	28.70	28.67	28.69	28.73	24.60	25.14	24.95	24.50	43.44	44.72	44.90	44.15
24.0	28.77	28.81	28.82	28.78	25.14	26.50	26.31	25.04	39.81	40.54	40.73	39.80
27.0	28.59	28.51	28.54	28.61	24.70	27.33	27.43	24.78	38.98	39.52	39.82	39.29
30.0	27.38	29.10	29.10	27.23	23.41	26.44	26.43	23.15	38.33	37.24	37.50	38.47

Typical Performance Data (Low Frequency)

Definitions:

STATE	V <sub>C1</sub>	V <sub>C2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = +25°C

FREQ	Insertion Loss				Isolation									
	RFC - RF-OUT 1	RFC - RF-OUT 2	RFC - RF-OUT 3	RFC - RF-OUT 4	RFC - RF-OUT 1	RFC - RF-OUT 2	RFC - RF-OUT 3	RFC - RF-OUT 4	RF-OUT1 - RF-OUT2	RF-OUT1 - RF-OUT3	RF-OUT1 - RF-OUT4	RF-OUT2 - RF-OUT3	RF-OUT2 - RF-OUT4	RF-OUT3 - RF-OUT4
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.009	0.86	0.87	0.86	0.85	78.75	78.48	79.52	80.43	77.87	78.93	80.73	79.47	80.10	80.59
0.25	0.86	0.86	0.85	0.85	80.45	81.10	80.72	80.72	82.11	81.85	82.07	82.42	81.71	81.94
0.5	0.86	0.86	0.85	0.85	80.63	80.74	80.68	80.68	81.85	82.23	81.82	82.23	82.26	81.85
0.75	0.86	0.86	0.85	0.85	80.60	80.63	80.58	80.82	81.74	82.13	82.14	82.42	81.91	81.91
1	0.86	0.86	0.85	0.85	80.66	80.86	80.94	80.64	81.83	82.36	82.45	82.35	82.10	81.71
2	0.85	0.86	0.85	0.85	80.65	80.88	81.02	80.65	81.84	82.16	82.50	82.27	82.21	81.73
3	0.85	0.86	0.85	0.84	80.65	80.89	80.93	80.75	81.73	82.27	82.52	82.32	82.27	81.91
4	0.85	0.86	0.85	0.84	80.45	80.95	80.99	80.67	81.63	82.41	82.46	82.22	82.51	81.46
5	0.84	0.86	0.85	0.84	80.41	80.78	80.94	80.60	81.48	82.33	82.45	82.36	82.27	81.22
6	0.84	0.86	0.85	0.84	80.27	80.74	80.77	80.44	81.25	82.35	82.22	82.12	82.29	81.06
7	0.84	0.85	0.85	0.84	80.18	80.41	80.58	80.20	81.02	82.07	82.32	82.10	82.14	80.89
8	0.84	0.85	0.85	0.84	79.84	80.23	80.48	80.01	80.76	82.13	82.07	81.96	81.83	80.55
9	0.84	0.86	0.85	0.84	79.61	80.15	80.35	79.67	80.51	81.98	81.81	81.61	81.99	80.36
10	0.84	0.86	0.85	0.84	79.21	79.82	80.11	79.53	80.08	81.67	81.70	81.49	81.44	80.02
20	0.84	0.86	0.85	0.84	77.05	77.61	77.89	77.32	77.77	79.61	79.97	79.63	79.64	77.33
30	0.84	0.86	0.85	0.84	75.84	76.36	76.70	76.03	76.51	78.44	78.87	78.34	78.51	75.93
40	0.84	0.86	0.85	0.84	75.22	75.72	75.95	75.34	75.83	77.76	78.51	77.68	77.75	75.03
50	0.84	0.86	0.86	0.85	74.91	75.27	75.74	75.01	75.53	77.45	78.25	77.34	77.44	74.69
60	0.84	0.86	0.86	0.85	74.80	75.17	75.51	74.93	75.22	77.34	78.13	77.20	77.36	74.45
70	0.84	0.86	0.86	0.85	74.57	75.12	75.53	75.03	75.15	77.24	78.22	77.15	77.34	74.35
80	0.84	0.86	0.86	0.85	74.87	75.22	75.54	75.16	75.07	77.33	78.40	77.25	77.36	74.25
90	0.84	0.86	0.86	0.85	74.93	75.15	75.64	75.20	75.20	77.40	78.67	77.26	77.49	74.31
100	0.84	0.87	0.86	0.85	74.99	75.38	75.82	75.46	75.14	77.48	78.93	77.41	77.45	74.42

*Typical Performance Data (Low Frequency)*

**Definitions:**

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = +25°C

FREQ	Return Loss								
	RFC	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (Off)	RF-OUT 2 (Off)	RF-OUT 3 (Off)	RF-OUT 4 (Off)
	(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.009	20.86	21.22	21.26	22.20	22.20	15.44	15.38	14.96	14.98
0.25	21.52	21.98	22.01	22.98	22.99	15.48	15.43	15.01	15.02
0.5	21.51	21.98	22.02	22.98	22.98	15.48	15.44	15.01	15.02
0.75	21.50	21.98	22.01	22.98	22.98	15.48	15.44	15.01	15.02
1	21.52	21.98	22.04	22.98	22.99	15.48	15.43	15.01	15.03
2	21.53	22.02	22.05	23.01	23.01	15.46	15.45	15.02	15.03
3	21.54	22.02	22.05	23.01	23.01	15.46	15.45	15.02	15.04
4	21.54	22.04	22.05	23.02	23.02	15.46	15.45	15.02	15.04
5	21.54	22.06	22.07	23.03	23.03	15.45	15.45	15.02	15.04
6	21.53	22.09	22.08	23.04	23.04	15.45	15.46	15.02	15.04
7	21.54	22.09	22.09	23.05	23.04	15.45	15.46	15.03	15.04
8	21.53	22.10	22.09	23.05	23.05	15.45	15.46	15.03	15.05
9	21.55	22.10	22.10	23.06	23.06	15.45	15.46	15.04	15.06
10	21.56	22.10	22.10	23.08	23.08	15.45	15.46	15.05	15.06
20	21.57	22.12	22.12	23.09	23.08	15.47	15.48	15.06	15.08
30	21.54	22.09	22.11	23.07	23.05	15.48	15.48	15.07	15.09
40	21.55	22.03	22.08	23.03	23.01	15.50	15.50	15.08	15.10
50	21.52	22.00	22.07	23.01	22.99	15.53	15.52	15.10	15.12
60	21.48	21.94	22.04	22.97	22.94	15.55	15.53	15.12	15.13
70	21.43	21.89	21.99	22.92	22.88	15.57	15.55	15.14	15.16
80	21.37	21.83	21.95	22.88	22.84	15.60	15.57	15.16	15.18
90	21.31	21.78	21.89	22.81	22.77	15.61	15.59	15.18	15.20
100	21.25	21.73	21.82	22.74	22.70	15.63	15.61	15.20	15.22

Typical Performance Data

Definitions:

STATE	V <sub>C1</sub>	V <sub>C2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub>= +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = +25°C

FREQ	Insertion Loss				Isolation									
	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT1 - RF-OUT2	RF-OUT1 - RF-OUT3	RF-OUT1 - RF-OUT4	RF-OUT2 - RF-OUT3	RF-OUT2 - RF-OUT4	RF-OUT3 - RF-OUT4
(GHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.01	0.83	0.85	0.86	0.84	76.16	73.00	72.65	74.83	77.17	78.78	76.90	78.65	75.22	75.41
0.05	0.84	0.85	0.86	0.84	74.90	74.82	74.35	73.41	76.32	76.29	76.54	76.68	78.88	75.05
0.1	0.84	0.86	0.86	0.85	74.64	75.18	75.77	74.91	76.18	77.40	78.85	76.88	77.16	75.27
0.2	0.85	0.87	0.87	0.86	75.58	78.48	78.00	75.44	73.20	80.68	81.79	79.54	81.08	72.57
0.4	0.88	0.90	0.91	0.90	69.59	78.89	78.26	71.57	67.85	82.45	85.36	82.90	82.44	67.99
0.6	0.92	0.94	0.95	0.94	66.22	77.68	76.08	67.65	64.89	82.50	82.33	81.15	83.16	64.43
0.8	0.96	0.99	0.99	0.99	63.85	73.65	74.79	65.22	62.61	81.12	80.51	78.23	81.20	62.30
1.0	1.01	1.03	1.04	1.03	62.04	72.00	71.31	63.33	60.80	77.44	79.05	75.93	78.93	60.55
1.5	1.13	1.14	1.15	1.14	58.84	68.33	68.86	60.26	57.56	74.95	75.52	73.11	75.90	57.37
2.0	1.19	1.21	1.22	1.20	56.88	66.39	66.68	58.18	55.42	72.84	73.98	71.45	74.76	55.20
2.5	1.21	1.24	1.26	1.23	55.55	64.76	65.30	57.09	53.87	71.26	72.57	70.23	73.26	53.67
3.0	1.21	1.25	1.26	1.23	54.74	64.07	64.18	56.22	52.79	70.16	70.24	69.42	72.41	52.55
3.5	1.24	1.28	1.30	1.27	54.10	63.13	63.53	55.56	51.96	69.69	69.23	69.36	71.97	51.76
4.0	1.35	1.39	1.40	1.39	53.68	62.59	62.95	55.20	51.22	68.04	67.65	69.63	71.32	51.03
4.5	1.46	1.47	1.49	1.48	53.33	61.63	61.31	54.99	50.55	66.72	66.58	69.13	69.72	50.35
5.0	1.50	1.48	1.50	1.50	53.17	60.58	59.35	54.85	49.81	65.34	64.87	68.62	68.27	49.64
5.5	1.48	1.47	1.48	1.47	53.03	58.80	57.74	54.59	49.07	63.82	63.49	68.08	66.50	48.96
6.0	1.46	1.46	1.48	1.47	52.26	57.29	56.66	54.37	48.39	62.58	62.24	68.17	65.13	48.30
6.5	1.47	1.49	1.51	1.49	51.74	55.97	55.83	53.36	47.69	61.95	61.54	68.27	64.61	47.73
7.0	1.52	1.56	1.57	1.58	51.24	54.99	54.97	52.90	47.21	61.92	61.58	68.78	64.54	47.32
7.5	1.59	1.63	1.63	1.68	50.64	54.22	54.17	52.47	46.96	61.43	61.30	69.67	63.93	47.06
8.0	1.61	1.62	1.62	1.68	49.94	53.33	53.40	51.78	46.61	60.44	60.51	70.63	62.80	46.74
8.5	1.57	1.57	1.58	1.61	49.32	52.52	52.75	50.75	46.16	59.28	59.63	70.81	61.56	46.37
9.0	1.58	1.55	1.56	1.59	48.58	51.79	52.01	49.60	45.66	58.54	59.27	72.39	60.95	45.95
9.5	1.69	1.62	1.63	1.67	47.93	51.28	51.04	48.88	45.41	58.41	59.72	73.82	61.02	45.74
10.0	1.80	1.76	1.75	1.81	47.35	50.98	50.27	48.73	45.56	58.66	60.44	74.37	61.03	45.88
10.5	1.81	1.81	1.78	1.87	47.03	50.41	49.72	48.56	45.71	58.30	60.59	75.91	60.66	46.07
11.0	1.76	1.77	1.75	1.82	46.99	49.69	49.37	48.16	45.65	57.79	60.31	75.62	59.99	46.07
11.5	1.70	1.72	1.71	1.76	46.78	48.91	49.06	47.41	45.50	57.21	59.78	78.02	59.51	45.97
12.0	1.70	1.70	1.68	1.75	46.25	48.14	48.41	46.59	45.47	56.83	59.61	78.69	59.23	46.00
12.5	1.78	1.73	1.72	1.81	45.53	47.59	47.69	45.99	45.62	56.70	59.11	76.69	59.17	46.21
13.0	1.91	1.82	1.82	1.92	45.07	47.36	47.22	45.70	45.93	56.70	58.72	74.80	59.27	46.62
13.5	2.05	1.92	1.92	2.05	45.02	47.18	46.96	45.58	46.51	56.85	58.67	73.01	59.63	47.33
14.0	2.14	2.02	2.01	2.20	45.04	47.08	46.86	45.35	47.35	57.20	58.73	71.58	60.19	48.18
14.5	2.16	2.05	2.04	2.26	44.88	46.84	46.63	45.13	48.12	57.76	58.89	70.84	60.76	48.58
15.0	2.12	2.01	2.01	2.20	44.48	46.47	46.22	44.76	48.38	57.95	58.58	69.66	60.95	48.74
15.5	2.05	1.97	1.96	2.11	44.17	46.11	45.81	44.41	48.63	57.68	58.02	67.63	60.83	48.95
16.0	2.05	1.96	1.96	2.09	43.94	45.82	45.65	44.04	49.31	57.76	57.48	66.24	61.05	49.23
16.5	2.11	1.97	1.99	2.15	43.70	45.66	45.55	43.71	49.61	57.92	57.71	65.90	61.54	49.51
17.0	2.21	2.02	2.04	2.27	43.42	45.52	45.47	43.44	49.94	58.34	58.14	66.85	62.63	49.86
17.5	2.38	2.15	2.16	2.46	43.12	45.46	45.31	43.25	50.31	58.55	58.69	67.14	63.37	50.28
18.0	2.60	2.31	2.30	2.67	43.03	45.52	45.20	43.17	50.91	59.52	60.08	68.35	64.64	50.80
18.5	2.69	2.41	2.41	2.75	43.08	45.55	44.99	43.07	51.45	60.21	61.71	69.37	65.97	50.23
19.0	2.56	2.42	2.39	2.62	43.16	45.52	44.88	42.95	50.68	60.94	63.33	70.58	67.12	49.55
19.5	2.35	2.41	2.33	2.43	43.12	45.47	44.94	42.81	51.17	60.74	63.17	70.89	65.90	50.18
20.0	2.20	2.29	2.21	2.29	42.82	45.53	45.08	42.57	52.59	58.97	60.96	71.97	63.11	51.39
20.5	2.36	2.24	2.22	2.42	42.63	45.67	45.25	42.40	52.56	57.48	59.49	72.05	61.32	51.12
21.0	2.65	2.37	2.35	2.72	42.65	45.59	45.02	42.29	51.35	57.44	59.62	73.61	61.65	50.12
21.5	2.71	2.47	2.47	2.80	42.70	45.43	44.89	42.28	51.18	58.47	60.91	74.39	63.56	50.15
22.0	2.70	2.63	2.66	2.78	43.01	45.54	45.07	42.44	52.42	59.50	61.10	74.52	64.84	51.60
22.5	2.80	2.88	2.90	2.88	43.16	45.87	45.26	42.59	54.84	59.05	60.79	71.17	64.05	53.90
23.0	2.85	2.99	2.96	2.95	43.04	46.04	45.22	42.43	57.40	58.16	60.14	69.72	62.63	56.40
23.5	2.85	3.01	2.94	2.97	42.82	45.93	44.94	42.22	57.77	57.12	59.72	67.75	61.08	57.78
24.0	2.81	2.97	2.92	2.91	42.58	45.71	44.56	42.05	54.98	56.34	59.34	66.43	59.86	54.69
24.5	2.78	2.93	2.93	2.88	42.39	45.67	44.44	41.81	52.88	55.84	58.58	66.96	59.36	52.51
25.0	2.90	3.00	3.04	2.99	42.46	45.81	44.56	41.70	51.90	55.68	57.85	67.61	59.44	51.55
25.5	3.14	3.23	3.28	3.22	42.81	46.04	44.70	41.79	51.46	56.15	57.69	68.92	60.04	50.76
26.0	3.32	3.46	3.48	3.36	43.09	46.18	44.83	41.90	50.41	56.80	57.55	68.71	60.70	49.32
26.5	3.31	3.50	3.50	3.31	43.01	46.16	44.70	41.77	48.97	56.93	57.18	68.01	60.37	47.60
27.0	3.31	3.49	3.51	3.25	42.54	46.20	44.44	41.42	47.87	57.03	56.82	66.69	59.79	46.50
28.0	3.50	3.77	3.83	3.37	42.23	45.67	43.75	40.84	46.16	56.67	55.64	65.34	58.25	44.49
29.0	3.14	3.15	3.15	3.17	41.31	44.02	42.66	39.14	44.08	54.85	53.52	62.30	55.85	42.49
30.0	3.10	2.97	2.98	3.18	41.13	43.16	41.36	39.10	43.81	55.07	52.17	59.42	55.81	41.88

Typical Performance Data

Definitions:

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = +25°C

FREQ	Return Loss								
	RF	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4
	(dB)	(On)	(On)	(On)	(On)	(Off)	(Off)	(Off)	(Off)
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.01	22.17	22.03	21.95	21.92	21.96	15.32	15.37	15.37	15.37
0.05	22.11	22.06	22.08	22.04	22.06	15.46	15.48	15.49	15.49
0.1	21.86	21.99	21.96	21.92	21.91	15.54	15.59	15.60	15.61
0.2	21.34	21.52	21.60	21.58	21.51	15.72	15.73	15.73	15.76
0.4	20.57	20.91	21.18	21.17	20.78	15.96	15.92	15.90	16.04
0.6	20.01	20.22	20.74	20.71	19.93	16.19	16.05	16.05	16.34
0.8	19.26	19.73	20.47	20.45	19.33	16.36	16.17	16.14	16.62
1.0	18.57	19.46	20.37	20.32	19.02	16.56	16.30	16.26	16.95
1.5	18.03	18.92	20.22	19.97	18.99	17.39	16.85	16.80	18.01
2.0	19.37	20.09	21.54	21.06	20.75	18.89	17.68	17.68	19.15
2.5	21.61	21.87	23.07	22.34	22.74	19.82	18.31	18.41	19.45
3.0	20.95	22.10	22.19	21.44	22.46	19.25	18.23	18.42	18.68
3.5	18.02	20.80	19.93	19.26	19.89	18.12	17.93	18.21	18.06
4.0	16.11	18.11	17.95	17.46	17.41	17.59	18.14	18.51	18.33
4.5	15.29	16.36	17.25	16.88	16.50	18.15	19.22	19.69	19.77
5.0	15.63	16.22	18.07	17.65	17.29	19.85	20.99	21.55	22.26
5.5	16.80	17.44	20.10	19.44	19.54	22.43	22.26	23.17	24.20
6.0	18.19	19.05	21.45	20.60	21.57	24.73	21.72	23.13	22.94
6.5	17.41	19.14	19.58	19.14	19.90	24.64	20.59	22.37	20.94
7.0	15.19	18.29	17.08	17.19	16.78	23.86	20.35	22.42	20.10
7.5	14.14	18.02	16.75	17.29	15.69	23.72	21.82	24.41	20.98
8.0	15.40	19.45	19.45	20.26	17.54	24.22	26.31	30.63	24.41
8.5	18.32	20.97	22.89	23.33	20.92	24.32	39.09	39.00	33.75
9.0	19.73	18.99	25.15	25.83	22.34	23.54	26.53	26.32	30.75
9.5	15.52	16.12	20.40	20.65	19.26	23.12	21.69	22.79	24.59
10.0	13.28	15.36	16.40	17.04	16.21	23.84	20.24	22.40	23.11
10.5	13.37	17.40	16.79	18.39	16.69	26.34	20.88	24.26	24.29
11.0	15.77	22.25	19.73	22.47	20.02	32.33	23.74	28.15	28.44
11.5	18.99	27.41	22.20	25.76	23.44	35.90	30.40	29.52	39.85
12.0	18.90	24.22	24.45	37.42	23.08	28.11	46.27	26.39	35.92
12.5	17.03	18.89	22.66	24.45	20.19	24.62	30.59	24.59	30.36
13.0	15.44	15.98	19.37	19.37	18.12	23.27	27.03	24.64	29.36
13.5	13.64	15.01	17.79	17.92	16.90	23.33	25.89	25.97	29.56
14.0	12.14	16.18	17.89	18.96	16.19	24.78	25.05	27.99	28.51
14.5	11.94	18.91	19.69	21.52	16.31	27.88	23.82	29.19	25.96
15.0	13.73	20.77	22.87	25.47	18.17	31.81	22.63	28.93	24.18
15.5	16.70	21.10	22.89	26.73	20.72	30.17	22.06	27.83	23.39
16.0	18.32	20.16	23.05	24.66	22.28	27.17	22.67	27.49	24.10
16.5	16.74	19.75	28.27	24.85	22.53	26.40	24.97	28.54	26.84
17.0	15.12	19.22	28.21	24.52	19.38	27.84	31.44	31.61	33.69
17.5	12.57	16.68	20.00	20.69	15.94	28.77	34.57	31.73	29.11
18.0	10.68	14.81	17.26	18.49	14.49	22.52	22.45	25.11	21.94
18.5	9.96	16.35	19.57	20.31	16.05	18.58	17.34	19.89	17.67
19.0	10.92	26.79	22.00	29.18	25.78	16.22	14.67	16.99	15.30
19.5	12.15	24.51	14.83	17.86	21.86	15.69	13.56	15.65	14.32
20.0	15.58	23.27	14.47	16.99	20.03	17.03	14.03	16.18	15.08
20.5	19.20	22.34	19.68	24.72	21.57	21.58	16.75	19.02	18.33
21.0	11.84	17.04	21.04	28.10	16.51	26.15	24.42	23.54	27.80
21.5	10.50	19.92	27.17	35.74	18.46	17.97	22.77	18.99	20.54
22.0	11.47	32.59	20.51	18.11	40.96	13.96	15.65	14.77	14.75
22.5	11.53	17.39	13.60	13.29	17.62	12.31	12.86	12.96	12.47
23.0	11.63	14.45	11.72	12.27	14.09	12.26	12.08	12.88	12.09
23.5	11.25	14.05	11.62	12.83	13.52	13.41	12.59	14.01	13.14
24.0	11.27	15.67	12.74	13.86	14.85	15.24	13.89	15.03	14.91
24.5	13.56	18.26	14.27	14.25	17.20	15.90	14.91	14.73	15.86
25.0	14.58	17.96	14.56	13.70	17.27	14.60	14.90	13.94	15.11
25.5	11.51	15.45	13.59	12.77	15.15	13.44	14.46	13.57	13.94
26.0	9.67	14.00	12.90	12.76	14.05	12.89	14.23	14.06	13.56
26.5	9.67	13.76	12.65	13.14	14.48	12.41	13.80	14.36	13.56
27.0	10.58	13.32	12.24	12.25	15.19	11.52	12.86	13.00	13.29
28.0	8.79	11.81	10.83	10.32	14.40	9.93	10.50	10.05	11.81
29.0	12.84	17.10	18.84	18.77	18.67	12.02	11.12	10.93	12.34
30.0	18.28	23.79	21.91	20.01	19.93	17.30	19.62	20.83	19.50

*Typical Performance Data*

**Definitions:**

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = +25°C

FREQ	Input Power at 1 dB Compression				Input Power at 0.1 dB Compression				Input IIP3			
	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)
(GHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
0.00010	13.99	14.01	13.99	13.99	10.36	10.21	10.19	10.18	26.20	26.36	26.13	26.05
0.00025	13.83	13.83	13.81	13.82	10.87	11.08	10.85	11.06	27.38	27.49	27.07	27.28
0.0005	13.94	13.93	13.92	13.92	10.97	10.97	10.95	10.95	24.94	24.97	24.89	24.94
0.00075	13.92	13.92	13.91	13.91	10.94	10.94	10.92	10.92	25.06	25.09	24.95	25.04
0.001	13.91	13.90	13.89	13.89	10.93	10.92	10.91	10.91	25.18	25.14	25.02	25.21
0.01	20.12	19.69	19.49	20.10	14.05	13.61	13.60	14.03	34.16	33.00	32.97	34.08
0.10	24.89	24.74	24.35	24.55	21.58	21.41	21.22	21.22	44.41	44.12	44.16	44.33
0.25	26.06	25.55	25.36	25.75	22.55	22.22	22.03	22.23	43.94	42.42	42.13	42.27
0.5	27.14	26.71	26.16	26.93	23.65	22.62	22.43	23.02	47.23	47.12	47.20	47.16
0.8	26.94	26.92	26.74	26.96	24.07	23.30	22.89	24.08	46.77	46.23	46.17	46.62
1.0	27.42	27.54	27.36	27.60	24.85	24.61	24.00	25.01	45.78	45.62	45.42	45.61
2.0	28.60	28.42	28.42	28.59	25.88	25.48	25.50	25.88	46.38	46.49	46.48	46.25
4.0	28.58	28.73	28.73	28.58	26.51	26.34	26.34	26.51	46.12	45.45	45.50	46.32
6.0	28.94	28.98	28.96	28.83	26.62	26.85	26.62	26.87	46.70	46.61	46.48	46.38
8.0	28.88	29.14	29.12	29.11	26.17	26.27	26.05	26.23	47.48	46.05	46.20	45.96
10.0	28.97	29.05	29.01	29.21	25.14	25.40	25.36	25.61	46.33	46.45	46.60	46.27
15.0	29.40	29.42	29.57	29.49	25.24	25.03	25.42	25.07	45.42	45.54	45.40	45.17
18.0	27.67	27.36	27.47	27.78	25.34	25.05	25.33	25.25	43.91	44.25	44.51	44.00
21.0	28.70	28.67	28.69	28.72	24.74	25.09	25.19	24.39	43.92	44.54	44.79	44.31
24.0	28.76	28.80	28.81	28.77	25.24	26.51	26.52	25.14	39.85	40.57	40.39	40.10
27.0	28.59	28.51	28.54	28.61	24.91	27.52	27.60	25.03	39.21	39.55	39.79	39.55
30.0	27.56	29.10	29.10	27.42	23.72	26.70	26.57	23.54	38.58	37.43	37.42	38.59

Typical Performance Data (Low Frequency)

Definitions:

STATE	V <sub>C1</sub>	V <sub>C2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.4V, V<sub>EE</sub> = -3.4V @ Temperature = +25°C

FREQ	Insertion Loss				Isolation									
	RFC - RF-OUT 1	RFC - RF-OUT 2	RFC - RF-OUT 3	RFC - RF-OUT 4	RFC - RF-OUT 1	RFC - RF-OUT 2	RFC - RF-OUT 3	RFC - RF-OUT 4	RF-OUT1 - RF-OUT2	RF-OUT1 - RF-OUT3	RF-OUT1 - RF-OUT4	RF-OUT2 - RF-OUT3	RF-OUT2 - RF-OUT4	RF-OUT3 - RF-OUT4
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.009	0.86	0.87	0.86	0.85	77.41	80.07	80.43	80.94	77.76	81.69	79.55	81.20	79.97	80.95
0.25	0.85	0.86	0.85	0.84	80.62	80.72	81.01	80.82	81.80	82.44	82.03	82.15	82.58	81.64
0.5	0.85	0.86	0.85	0.84	80.72	80.75	80.64	80.23	81.96	82.11	82.34	82.52	82.09	81.31
0.75	0.85	0.86	0.85	0.84	80.55	80.60	81.02	80.87	81.95	82.08	81.90	81.92	81.98	81.24
1	0.85	0.86	0.85	0.84	80.61	80.79	80.82	80.62	81.92	82.17	82.34	82.03	82.37	81.91
2	0.85	0.86	0.85	0.84	80.57	81.00	80.87	80.74	81.73	82.32	82.10	82.52	81.92	81.90
3	0.85	0.86	0.85	0.84	80.70	80.87	80.92	80.74	81.72	82.36	82.14	82.44	82.46	81.66
4	0.84	0.86	0.85	0.84	80.62	80.85	80.96	80.66	81.58	82.33	82.30	82.19	82.38	81.78
5	0.84	0.86	0.85	0.84	80.47	80.74	80.93	80.57	81.34	82.45	82.41	82.35	82.40	81.30
6	0.84	0.85	0.85	0.84	80.21	80.72	80.86	80.52	81.13	82.37	82.34	82.19	82.00	81.02
7	0.84	0.85	0.85	0.84	80.06	80.62	80.65	80.26	81.04	82.02	82.01	82.01	82.13	81.08
8	0.84	0.85	0.85	0.84	79.83	80.31	80.41	80.03	80.74	81.95	82.07	82.04	81.83	80.63
9	0.84	0.85	0.85	0.84	79.62	80.12	80.18	79.78	80.42	81.79	81.93	81.82	81.66	80.13
10	0.84	0.85	0.85	0.84	79.43	79.84	80.10	79.51	80.17	81.58	81.73	81.42	81.78	79.85
20	0.84	0.85	0.85	0.84	77.13	77.74	77.96	77.30	77.95	79.77	80.14	79.57	79.68	77.38
30	0.84	0.86	0.85	0.84	75.83	76.51	76.68	76.02	76.68	78.39	79.02	78.40	78.43	75.87
40	0.84	0.86	0.85	0.84	75.22	75.67	76.04	75.44	75.75	77.84	78.56	77.72	77.70	75.10
50	0.84	0.86	0.85	0.84	74.85	75.35	75.69	75.16	75.35	77.61	78.26	77.30	77.38	74.64
60	0.84	0.86	0.85	0.85	74.82	75.05	75.49	74.99	75.17	77.33	78.16	77.24	77.44	74.41
70	0.84	0.86	0.86	0.85	74.71	75.10	75.51	75.01	75.12	77.15	78.37	77.28	77.35	74.28
80	0.84	0.86	0.86	0.85	74.79	75.12	75.58	75.04	75.15	77.19	78.60	77.14	77.29	74.23
90	0.84	0.86	0.86	0.85	74.91	75.26	75.65	75.21	75.09	77.51	78.66	77.36	77.41	74.30
100	0.84	0.86	0.86	0.85	74.96	75.38	75.81	75.45	75.17	77.53	78.87	77.48	77.51	74.37

*Typical Performance Data (Low Frequency)*

**Definitions:**

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.4V, V<sub>EE</sub> = -3.4V @ Temperature = +25°C

FREQ	Return Loss								
	RF	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (Off)	RF-OUT 2 (Off)	RF-OUT 3 (Off)	RF-OUT 4 (Off)
	(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.009	20.95	21.34	21.39	22.37	22.33	15.43	15.38	14.96	14.98
0.25	21.59	22.06	22.10	23.07	23.07	15.48	15.43	15.00	15.02
0.5	21.58	22.05	22.10	23.07	23.07	15.48	15.44	15.00	15.02
0.75	21.57	22.05	22.10	23.07	23.07	15.48	15.44	15.00	15.02
1	21.59	22.06	22.12	23.07	23.07	15.47	15.43	15.01	15.02
2	21.59	22.09	22.13	23.10	23.09	15.46	15.45	15.01	15.03
3	21.60	22.09	22.12	23.09	23.08	15.46	15.45	15.02	15.04
4	21.59	22.10	22.12	23.09	23.08	15.45	15.45	15.02	15.04
5	21.58	22.12	22.13	23.10	23.09	15.45	15.45	15.02	15.04
6	21.58	22.14	22.14	23.11	23.10	15.45	15.45	15.02	15.03
7	21.58	22.14	22.14	23.10	23.10	15.45	15.45	15.02	15.04
8	21.57	22.14	22.14	23.11	23.10	15.45	15.45	15.03	15.04
9	21.59	22.15	22.15	23.12	23.11	15.44	15.46	15.04	15.05
10	21.59	22.14	22.15	23.13	23.12	15.44	15.46	15.04	15.06
20	21.59	22.15	22.15	23.12	23.11	15.46	15.48	15.06	15.07
30	21.56	22.11	22.13	23.10	23.08	15.48	15.48	15.07	15.09
40	21.56	22.06	22.10	23.06	23.03	15.50	15.50	15.08	15.10
50	21.53	22.01	22.09	23.04	23.01	15.52	15.52	15.10	15.12
60	21.49	21.96	22.06	22.99	22.96	15.55	15.53	15.11	15.13
70	21.44	21.91	22.01	22.94	22.91	15.57	15.55	15.13	15.15
80	21.38	21.85	21.97	22.90	22.86	15.59	15.57	15.16	15.17
90	21.32	21.80	21.91	22.83	22.79	15.61	15.59	15.17	15.19
100	21.26	21.74	21.84	22.76	22.71	15.62	15.61	15.19	15.21

Typical Performance Data

Definitions:

STATE	V <sub>C1</sub>	V <sub>C2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.4V, V<sub>EE</sub> = -3.4V @ Temperature = +25°C

FREQ	Insertion Loss				Isolation									
	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT1 - RF-OUT2	RF-OUT1 - RF-OUT3	RF-OUT1 - RF-OUT4	RF-OUT2 - RF-OUT3	RF-OUT2 - RF-OUT4	RF-OUT3 - RF-OUT4
(GHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.01	0.83	0.85	0.85	0.84	74.98	75.89	76.41	78.38	77.09	74.97	76.48	74.27	75.49	73.30
0.05	0.83	0.85	0.86	0.84	74.13	76.54	74.61	74.83	75.78	76.16	76.55	76.51	75.85	74.37
0.1	0.84	0.86	0.86	0.85	74.39	75.18	75.12	74.35	75.17	76.51	77.84	76.56	78.42	74.81
0.2	0.85	0.87	0.87	0.86	75.22	78.43	77.17	75.79	73.77	79.97	81.01	79.65	79.31	73.73
0.4	0.88	0.90	0.91	0.89	69.87	78.63	78.17	71.02	68.11	83.63	82.45	84.35	83.68	67.97
0.6	0.91	0.94	0.94	0.93	66.35	77.63	77.41	67.53	64.83	84.58	81.50	81.64	82.39	64.93
0.8	0.96	0.99	0.99	0.99	63.74	73.50	74.02	65.24	62.68	80.62	81.63	77.96	81.84	62.42
1.0	1.01	1.03	1.04	1.03	62.21	71.42	71.83	63.48	60.79	78.69	79.24	75.50	77.95	60.55
1.5	1.12	1.14	1.15	1.14	58.95	68.03	68.88	60.26	57.55	75.65	76.07	73.28	76.20	57.36
2.0	1.18	1.21	1.22	1.20	57.06	66.60	66.63	58.31	55.36	73.54	73.92	71.35	74.35	55.18
2.5	1.21	1.24	1.25	1.23	55.65	64.92	65.50	57.00	53.90	71.69	72.48	69.99	73.13	53.65
3.0	1.20	1.24	1.26	1.23	54.77	63.89	64.34	56.23	52.77	70.05	70.53	69.71	72.00	52.59
3.5	1.24	1.28	1.30	1.27	54.14	63.16	63.42	55.59	51.94	69.05	68.90	69.25	72.00	51.72
4.0	1.35	1.38	1.40	1.38	53.75	62.53	62.69	55.31	51.21	67.83	67.85	69.63	71.16	51.00
4.5	1.46	1.47	1.49	1.48	53.39	61.54	61.09	55.03	50.57	66.52	66.49	68.99	69.55	50.32
5.0	1.49	1.48	1.50	1.50	53.20	60.57	59.23	54.89	49.80	65.30	65.04	68.87	68.03	49.64
5.5	1.48	1.46	1.48	1.47	52.99	58.78	57.68	54.70	49.04	63.64	63.42	68.37	66.44	49.00
6.0	1.46	1.46	1.48	1.46	52.21	57.18	56.62	54.25	48.34	62.56	62.18	68.05	65.05	48.29
6.5	1.47	1.48	1.50	1.49	51.69	55.86	55.88	53.41	47.68	61.94	61.41	68.20	64.63	47.72
7.0	1.52	1.56	1.57	1.58	51.22	54.93	54.99	52.88	47.22	61.84	61.49	69.06	64.52	47.30
7.5	1.59	1.63	1.63	1.68	50.58	54.18	54.14	52.42	46.92	61.26	61.12	69.77	64.14	47.02
8.0	1.60	1.62	1.62	1.67	49.95	53.29	53.46	51.72	46.65	60.38	60.51	70.18	62.83	46.75
8.5	1.57	1.57	1.58	1.61	49.29	52.46	52.71	50.69	46.17	59.35	59.51	71.34	61.75	46.36
9.0	1.58	1.55	1.56	1.58	48.62	51.78	51.93	49.61	45.67	58.44	59.28	72.34	60.92	45.90
9.5	1.68	1.62	1.62	1.67	47.92	51.33	51.03	48.88	45.42	58.32	59.77	73.58	60.91	45.76
10.0	1.80	1.76	1.75	1.81	47.32	51.00	50.15	48.70	45.58	58.56	60.39	74.93	61.04	45.88
10.5	1.81	1.81	1.78	1.87	47.06	50.43	49.74	48.58	45.68	58.31	60.69	75.75	60.57	46.05
11.0	1.76	1.77	1.75	1.82	46.95	49.68	49.34	48.15	45.65	57.73	60.20	75.62	59.93	46.06
11.5	1.70	1.72	1.70	1.76	46.80	48.89	49.03	47.43	45.50	57.26	59.77	78.52	59.49	45.99
12.0	1.70	1.70	1.68	1.75	46.23	48.12	48.41	46.58	45.45	56.86	59.49	79.65	59.23	46.01
12.5	1.78	1.73	1.72	1.81	45.50	47.60	47.71	45.99	45.61	56.67	59.11	76.75	59.19	46.22
13.0	1.90	1.82	1.81	1.91	45.08	47.30	47.19	45.69	45.92	56.71	58.84	75.32	59.21	46.62
13.5	2.04	1.92	1.92	2.05	45.00	47.17	46.97	45.55	46.52	56.87	58.50	73.38	59.52	47.31
14.0	2.14	2.02	2.01	2.19	44.98	47.08	46.82	45.40	47.35	57.29	58.65	71.25	60.25	48.21
14.5	2.16	2.05	2.04	2.26	44.87	46.85	46.62	45.11	48.06	57.81	58.82	71.07	60.69	48.58
15.0	2.11	2.01	2.00	2.19	44.51	46.47	46.21	44.75	48.43	57.89	58.45	69.44	61.02	48.75
15.5	2.05	1.97	1.96	2.10	44.18	46.06	45.84	44.38	48.64	57.66	57.97	67.68	60.75	48.96
16.0	2.05	1.96	1.95	2.09	43.94	45.89	45.62	44.03	49.29	57.72	57.55	65.88	60.84	49.19
16.5	2.11	1.97	1.99	2.15	43.70	45.67	45.57	43.71	49.61	57.92	57.55	65.90	61.55	49.49
17.0	2.20	2.02	2.04	2.26	43.37	45.51	45.45	43.45	49.93	58.27	58.03	66.81	62.47	49.83
17.5	2.38	2.15	2.15	2.45	43.12	45.46	45.31	43.24	50.31	58.60	58.77	67.36	63.46	50.25
18.0	2.59	2.31	2.30	2.66	43.01	45.49	45.16	43.14	50.86	59.32	60.14	68.24	64.91	50.81
18.5	2.68	2.40	2.41	2.75	43.06	45.55	45.01	43.04	51.45	60.31	61.79	69.31	65.91	50.22
19.0	2.56	2.41	2.39	2.62	43.10	45.50	44.81	42.95	50.66	61.11	63.13	70.67	67.30	49.60
19.5	2.35	2.40	2.32	2.42	43.13	45.47	44.91	42.81	51.21	60.77	62.79	70.92	65.96	50.20
20.0	2.20	2.29	2.21	2.29	42.80	45.46	45.10	42.59	52.57	58.85	60.81	71.47	63.11	51.36
20.5	2.36	2.24	2.21	2.42	42.62	45.64	45.17	42.37	52.49	57.45	59.50	72.43	61.38	51.09
21.0	2.64	2.37	2.35	2.72	42.65	45.58	45.00	42.27	51.40	57.56	59.70	73.84	61.71	50.10
21.5	2.70	2.47	2.47	2.80	42.73	45.42	44.90	42.30	51.18	58.55	60.80	74.32	63.50	50.11
22.0	2.70	2.62	2.66	2.77	43.01	45.53	45.07	42.42	52.41	59.31	61.16	74.47	64.69	51.53
22.5	2.80	2.88	2.90	2.88	43.11	45.87	45.28	42.54	54.86	59.08	60.65	71.91	63.85	53.91
23.0	2.84	2.98	2.96	2.95	43.00	46.06	45.19	42.42	57.41	58.17	60.05	69.82	62.61	56.31
23.5	2.85	3.00	2.93	2.96	42.78	45.98	44.91	42.22	57.85	57.19	59.74	67.80	61.33	57.86
24.0	2.80	2.97	2.92	2.91	42.57	45.70	44.56	42.06	55.07	56.24	59.21	66.49	59.87	54.69
24.5	2.78	2.92	2.93	2.88	42.39	45.67	44.47	41.82	52.90	55.81	58.62	67.09	59.25	52.58
25.0	2.90	2.99	3.04	2.99	42.45	45.78	44.57	41.68	51.92	55.66	57.88	67.69	59.32	51.58
25.5	3.14	3.23	3.28	3.21	42.82	46.02	44.67	41.80	51.48	56.15	57.61	68.75	60.21	50.82
26.0	3.31	3.46	3.48	3.36	43.09	46.14	44.80	41.91	50.42	56.77	57.55	68.55	60.82	49.30
26.5	3.31	3.50	3.50	3.31	42.98	46.18	44.72	41.74	49.01	57.10	57.24	68.29	60.48	47.66
27.0	3.30	3.49	3.51	3.25	42.55	46.13	44.52	41.41	47.85	56.80	56.73	66.74	59.86	46.44
28.0	3.50	3.77	3.83	3.37	42.16	45.72	43.77	40.79	46.17	56.77	55.88	65.59	58.41	44.51
29.0	3.14	3.15	3.15	3.16	41.37	44.00	42.67	39.07	44.09	54.91	53.59	62.47	55.70	42.47
30.0	3.10	2.97	2.98	3.18	41.10	43.07	41.33	39.11	43.87	54.99	52.19	59.57	55.85	41.92

Typical Performance Data

Definitions:

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.4V, V<sub>EE</sub> = -3.4V @ Temperature = +25°C

FREQ	Return Loss								
	RF	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (Off)	RF-OUT 2 (Off)	RF-OUT 3 (Off)	RF-OUT 4 (Off)
	(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.01	22.21	22.08	22.00	21.98	22.00	15.31	15.36	15.36	15.37
0.05	22.13	22.08	22.11	22.06	22.07	15.45	15.47	15.48	15.49
0.1	21.88	22.01	21.99	21.94	21.93	15.53	15.59	15.60	15.61
0.2	21.36	21.54	21.62	21.60	21.52	15.71	15.72	15.72	15.76
0.4	20.59	20.91	21.20	21.18	20.79	15.96	15.91	15.90	16.04
0.6	20.02	20.23	20.75	20.73	19.94	16.19	16.05	16.04	16.34
0.8	19.27	19.74	20.48	20.46	19.34	16.36	16.17	16.14	16.62
1.0	18.58	19.47	20.38	20.33	19.04	16.55	16.30	16.26	16.95
1.5	18.04	18.93	20.23	19.98	19.00	17.39	16.85	16.79	18.01
2.0	19.38	20.10	21.55	21.07	20.76	18.88	17.67	17.67	19.15
2.5	21.63	21.88	23.09	22.36	22.76	19.81	18.30	18.41	19.45
3.0	20.97	22.11	22.21	21.46	22.48	19.24	18.23	18.42	18.68
3.5	18.03	20.80	19.94	19.28	19.90	18.12	17.93	18.21	18.06
4.0	16.12	18.11	17.97	17.48	17.42	17.58	18.14	18.51	18.32
4.5	15.29	16.36	17.26	16.89	16.51	18.14	19.22	19.69	19.77
5.0	15.63	16.23	18.08	17.66	17.29	19.84	20.99	21.55	22.25
5.5	16.81	17.45	20.12	19.46	19.55	22.43	22.25	23.16	24.19
6.0	18.20	19.06	21.48	20.62	21.59	24.72	21.71	23.13	22.93
6.5	17.42	19.16	19.60	19.16	19.92	24.63	20.59	22.37	20.93
7.0	15.21	18.30	17.09	17.20	16.79	23.85	20.35	22.42	20.10
7.5	14.15	18.03	16.77	17.30	15.70	23.71	21.82	24.41	20.98
8.0	15.41	19.45	19.47	20.28	17.55	24.21	26.32	30.66	24.42
8.5	18.33	20.99	22.91	23.34	20.94	24.31	39.02	38.93	33.78
9.0	19.75	19.01	25.18	25.86	22.36	23.54	26.51	26.29	30.71
9.5	15.53	16.13	20.42	20.68	19.27	23.12	21.68	22.77	24.57
10.0	13.28	15.36	16.41	17.05	16.22	23.85	20.24	22.39	23.10
10.5	13.37	17.41	16.80	18.40	16.70	26.37	20.89	24.27	24.29
11.0	15.78	22.27	19.75	22.49	20.04	32.41	23.76	28.19	28.47
11.5	19.00	27.46	22.21	25.77	23.47	35.81	30.45	29.50	39.99
12.0	18.92	24.25	24.48	37.55	23.11	28.06	46.24	26.34	35.84
12.5	17.05	18.90	22.69	24.48	20.21	24.59	30.55	24.55	30.33
13.0	15.46	15.99	19.39	19.39	18.13	23.27	27.02	24.62	29.36
13.5	13.65	15.01	17.80	17.93	16.91	23.35	25.89	25.96	29.57
14.0	12.15	16.18	17.90	18.97	16.20	24.81	25.07	28.02	28.53
14.5	11.95	18.91	19.71	21.53	16.31	27.94	23.85	29.24	25.99
15.0	13.74	20.77	22.90	25.50	18.18	31.92	22.67	28.99	24.21
15.5	16.71	21.11	22.92	26.78	20.74	30.26	22.10	27.90	23.43
16.0	18.33	20.17	23.07	24.69	22.30	27.23	22.70	27.55	24.15
16.5	16.75	19.76	28.29	24.89	22.55	26.45	25.01	28.62	26.90
17.0	15.14	19.23	28.25	24.56	19.39	27.90	31.50	31.73	33.83
17.5	12.58	16.69	20.01	20.70	15.94	28.85	34.61	31.84	29.16
18.0	10.69	14.81	17.27	18.49	14.49	22.55	22.47	25.14	21.97
18.5	9.96	16.35	19.58	20.31	16.05	18.60	17.36	19.92	17.69
19.0	10.92	26.77	22.02	29.24	25.81	16.24	14.69	17.02	15.32
19.5	12.14	24.50	14.84	17.86	21.86	15.71	13.58	15.67	14.34
20.0	15.57	23.24	14.46	16.99	20.02	17.05	14.05	16.20	15.10
20.5	19.22	22.34	19.66	24.69	21.56	21.61	16.76	19.04	18.34
21.0	11.85	17.04	21.02	28.06	16.51	26.22	24.44	23.61	27.86
21.5	10.50	19.92	27.10	35.66	18.45	18.00	22.83	19.03	20.58
22.0	11.47	32.59	20.52	18.11	40.90	13.98	15.68	14.79	14.78
22.5	11.53	17.38	13.60	13.28	17.62	12.33	12.88	12.98	12.49
23.0	11.63	14.45	11.71	12.26	14.08	12.27	12.10	12.90	12.11
23.5	11.25	14.04	11.61	12.83	13.51	13.42	12.60	14.03	13.15
24.0	11.26	15.65	12.74	13.85	14.84	15.25	13.90	15.05	14.93
24.5	13.55	18.24	14.26	14.25	17.19	15.93	14.93	14.76	15.88
25.0	14.58	17.95	14.55	13.70	17.26	14.63	14.93	13.95	15.13
25.5	11.50	15.44	13.58	12.76	15.14	13.45	14.48	13.58	13.96
26.0	9.67	13.98	12.89	12.75	14.04	12.90	14.25	14.08	13.57
26.5	9.66	13.74	12.64	13.12	14.46	12.42	13.81	14.38	13.57
27.0	10.57	13.31	12.23	12.24	15.17	11.53	12.88	13.02	13.31
28.0	8.78	11.79	10.82	10.31	14.38	9.94	10.50	10.06	11.82
29.0	12.83	17.09	18.78	18.72	18.67	12.01	11.12	10.92	12.34
30.0	18.24	23.82	21.96	20.05	19.96	17.32	19.63	20.85	19.52

*Typical Performance Data*

**Definitions:**

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.4V, V<sub>EE</sub> = -3.4V @ Temperature = +25°C

FREQ	Input Power at 1 dB Compression				Input Power at 0.1 dB Compression				Input IIP3			
	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)
(GHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
0.00010	14.69	14.68	14.67	14.51	10.89	10.90	10.71	10.88	27.81	28.07	27.82	27.67
0.00025	14.24	14.23	14.22	14.23	11.30	11.29	11.28	11.28	28.96	29.09	28.82	28.75
0.0005	14.33	14.32	14.31	14.32	11.41	11.39	11.38	11.39	26.77	26.85	26.74	26.80
0.00075	14.32	14.31	14.30	14.31	11.38	11.36	11.35	11.36	26.91	26.94	26.82	26.91
0.001	14.30	14.29	14.29	14.29	11.36	11.35	11.34	11.34	27.05	27.01	26.90	27.07
0.01	20.31	19.69	19.68	20.30	14.42	13.82	13.81	14.60	35.13	34.10	34.07	35.05
0.10	25.09	24.94	24.74	24.94	21.78	21.61	21.42	21.42	44.55	44.11	44.10	44.40
0.25	26.25	25.74	25.55	26.13	22.75	22.42	22.23	22.62	42.72	41.89	41.92	42.24
0.5	27.33	26.90	26.53	27.12	23.85	23.02	22.82	23.41	47.29	47.00	46.91	46.82
0.8	27.13	27.11	26.93	27.14	24.27	23.50	23.30	24.28	46.73	46.32	46.28	46.75
1.0	27.59	27.70	27.54	27.61	25.24	24.80	24.01	25.21	45.84	45.53	45.51	45.70
2.0	28.61	28.59	28.58	28.60	26.07	25.68	25.69	26.07	46.56	46.63	46.41	46.55
4.0	28.58	28.86	28.87	28.72	26.69	26.52	26.34	26.69	45.81	45.65	45.87	45.84
6.0	28.94	28.99	29.12	28.99	26.84	26.65	26.82	27.06	46.37	46.88	46.55	46.52
8.0	29.03	29.29	29.26	29.25	26.38	26.28	26.03	26.22	46.65	47.02	47.02	46.70
10.0	28.97	29.05	29.18	29.20	25.14	25.41	25.35	25.39	46.40	46.70	46.31	46.31
15.0	29.40	29.43	29.56	29.65	25.03	25.03	25.41	25.28	45.56	45.47	45.73	45.33
18.0	27.77	27.44	27.56	27.84	25.54	25.33	25.38	25.43	43.89	44.41	44.88	44.24
21.0	28.69	28.69	28.69	28.72	24.79	25.18	24.91	24.60	44.00	44.71	44.91	44.56
24.0	28.76	28.82	28.82	28.77	25.41	26.62	26.65	25.22	40.09	40.65	40.49	40.23
27.0	28.59	28.52	28.53	28.61	25.13	27.64	27.78	25.19	39.36	39.61	39.64	39.77
30.0	27.74	29.10	29.10	27.59	23.89	26.87	26.87	23.86	38.83	37.24	36.86	38.87

Typical Performance Data (Low Frequency)

Definitions:

STATE	V <sub>C1</sub>	V <sub>C2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = -40°C

FREQ	Insertion Loss				Isolation									
	RFC - RF-OUT 1	RFC - RF-OUT 2	RFC - RF-OUT 3	RFC - RF-OUT 4	RFC - RF-OUT 1	RFC - RF-OUT 2	RFC - RF-OUT 3	RFC - RF-OUT 4	RF-OUT1 - RF-OUT2	RF-OUT1 - RF-OUT3	RF-OUT1 - RF-OUT4	RF-OUT2 - RF-OUT3	RF-OUT2 - RF-OUT4	RF-OUT3 - RF-OUT4
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.009	0.82	0.81	0.81	0.79	78.24	79.06	79.02	77.26	81.27	80.11	80.18	80.47	82.34	80.16
0.25	0.81	0.81	0.80	0.79	79.73	79.45	79.55	79.42	80.49	80.59	80.93	80.77	80.71	81.04
0.5	0.81	0.80	0.80	0.79	79.58	79.46	79.76	79.49	80.77	81.05	80.83	81.02	80.96	80.97
0.75	0.81	0.81	0.80	0.79	79.46	79.85	79.71	79.57	80.70	81.05	80.93	80.86	81.33	80.95
1	0.81	0.81	0.80	0.79	79.40	79.75	79.87	79.67	80.59	81.12	81.06	80.67	81.08	80.77
2	0.80	0.80	0.79	0.79	79.65	79.76	79.87	79.50	80.79	80.98	81.02	81.01	81.15	81.11
3	0.80	0.80	0.79	0.78	79.63	79.74	79.95	79.59	80.75	81.13	81.02	81.13	81.17	80.94
4	0.80	0.80	0.79	0.78	79.70	79.92	79.95	79.66	80.77	81.26	81.18	81.27	81.21	80.99
5	0.80	0.80	0.79	0.78	79.67	79.98	79.93	79.40	80.75	81.35	81.29	81.29	81.41	80.80
6	0.80	0.80	0.79	0.78	79.46	79.89	79.93	79.47	80.68	81.27	81.28	81.22	81.24	80.58
7	0.80	0.80	0.79	0.78	79.33	79.72	79.88	79.44	80.39	81.18	81.16	81.19	81.33	80.70
8	0.80	0.80	0.79	0.78	79.31	79.74	79.83	79.13	80.27	81.18	81.11	81.13	81.15	80.45
9	0.80	0.80	0.79	0.79	79.02	79.51	79.49	79.09	80.10	81.08	81.19	80.87	81.15	80.23
10	0.80	0.80	0.79	0.78	78.91	79.30	79.44	78.71	79.90	80.86	80.86	80.77	80.85	79.98
20	0.80	0.81	0.80	0.79	76.58	77.21	77.51	76.63	77.43	79.01	79.20	78.81	79.09	77.10
30	0.80	0.81	0.80	0.79	75.16	75.77	75.94	75.28	75.88	77.56	78.06	77.41	77.67	75.26
40	0.80	0.81	0.80	0.79	74.29	74.75	75.08	74.42	74.98	76.77	77.24	76.63	76.78	74.33
50	0.80	0.81	0.80	0.79	73.85	74.22	74.59	73.92	74.39	76.24	76.95	76.08	76.18	73.68
60	0.80	0.82	0.80	0.80	73.52	73.98	74.24	73.69	74.23	75.90	76.69	75.80	75.95	73.33
70	0.80	0.82	0.81	0.80	73.46	73.74	74.02	73.75	73.86	75.77	76.56	75.65	75.79	73.18
80	0.80	0.82	0.81	0.80	73.48	73.72	74.06	73.70	73.88	75.57	76.64	75.61	75.71	73.02
90	0.80	0.82	0.81	0.80	73.51	73.67	73.99	73.75	73.73	75.58	76.69	75.54	75.65	72.97
100	0.81	0.82	0.81	0.80	73.66	73.71	74.06	73.81	73.88	75.74	76.89	75.48	75.76	72.94

*Typical Performance Data (Low Frequency)*

**Definitions:**

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = -40°C

FREQ	Return Loss								
	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (Off)	RF-OUT 2 (Off)	RF-OUT 3 (Off)	RF-OUT 4 (Off)	RF-OUT 4 (Off)
	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.009	21.27	21.59	21.66	22.62	22.62	15.45	15.36	14.94	14.99
0.25	22.08	22.51	22.59	23.65	23.63	15.49	15.41	14.97	15.02
0.5	22.07	22.51	22.59	23.65	23.63	15.49	15.41	14.97	15.02
0.75	22.07	22.51	22.59	23.65	23.63	15.49	15.41	14.97	15.02
1	22.09	22.52	22.62	23.66	23.65	15.48	15.39	14.97	15.02
2	22.16	22.62	22.69	23.74	23.73	15.46	15.40	14.97	15.02
3	22.22	22.66	22.72	23.78	23.77	15.45	15.40	14.97	15.02
4	22.23	22.70	22.75	23.82	23.82	15.46	15.41	14.98	15.03
5	22.25	22.74	22.78	23.86	23.86	15.46	15.41	14.98	15.03
6	22.27	22.80	22.82	23.90	23.89	15.46	15.42	14.98	15.03
7	22.30	22.82	22.86	23.94	23.93	15.47	15.42	14.99	15.04
8	22.31	22.85	22.88	23.97	23.96	15.47	15.42	14.99	15.04
9	22.35	22.88	22.91	24.02	24.00	15.46	15.43	15.00	15.05
10	22.37	22.89	22.95	24.06	24.04	15.47	15.43	15.01	15.06
20	22.48	23.00	23.10	24.21	24.12	15.50	15.45	15.03	15.09
30	22.48	22.99	23.13	24.21	24.09	15.52	15.47	15.06	15.11
40	22.49	22.93	23.12	24.16	24.02	15.55	15.50	15.09	15.14
50	22.46	22.88	23.12	24.13	23.98	15.59	15.52	15.13	15.18
60	22.41	22.82	23.09	24.07	23.92	15.62	15.54	15.15	15.20
70	22.34	22.75	23.06	24.03	23.87	15.65	15.56	15.17	15.22
80	22.25	22.69	23.04	24.01	23.85	15.68	15.58	15.19	15.24
90	22.17	22.64	22.98	23.97	23.81	15.70	15.60	15.20	15.25
100	22.09	22.57	22.93	23.93	23.76	15.72	15.61	15.21	15.25

Typical Performance Data

Definitions:

STATE	V <sub>C1</sub>	V <sub>C2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub>= +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = -40°C

FREQ	Insertion Loss				Isolation									
	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT1 - RF-OUT2	RF-OUT1 - RF-OUT3	RF-OUT1 - RF-OUT4	RF-OUT2 - RF-OUT3	RF-OUT2 - RF-OUT4	RF-OUT3 - RF-OUT4
(GHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.01	0.78	0.79	0.79	0.79	72.45	77.62	75.24	75.48	75.82	73.83	73.18	73.82	74.48	76.19
0.05	0.78	0.80	0.80	0.79	73.28	74.06	73.17	73.88	74.42	75.94	77.67	75.15	75.38	73.58
0.1	0.79	0.80	0.80	0.80	72.69	73.20	72.62	73.32	75.02	76.54	75.23	74.89	76.86	72.21
0.2	0.79	0.81	0.81	0.81	74.78	75.45	74.47	74.59	73.36	76.96	79.60	77.13	77.07	73.47
0.4	0.82	0.84	0.84	0.83	71.92	77.28	78.37	71.20	68.01	80.83	79.90	81.69	80.42	67.64
0.6	0.85	0.87	0.87	0.87	66.90	77.88	77.62	68.20	64.91	82.43	82.26	82.72	83.37	64.58
0.8	0.89	0.91	0.91	0.91	64.17	74.71	75.62	65.48	62.68	81.33	81.21	78.69	82.04	62.41
1.0	0.93	0.95	0.95	0.95	62.21	72.42	72.80	63.59	60.72	79.71	79.37	77.46	80.29	60.59
1.5	1.04	1.05	1.05	1.05	59.03	69.06	69.45	60.44	57.60	76.35	76.14	73.68	75.81	57.38
2.0	1.09	1.12	1.11	1.10	57.15	66.56	67.27	58.42	55.52	73.70	73.69	72.23	75.57	55.16
2.5	1.11	1.15	1.14	1.13	55.78	65.14	65.91	57.19	53.87	70.98	71.82	70.79	74.30	53.67
3.0	1.11	1.16	1.15	1.13	54.80	64.40	64.27	56.44	52.71	70.04	70.15	69.56	73.20	52.53
3.5	1.14	1.20	1.20	1.18	54.19	62.99	63.08	55.77	51.87	68.66	68.95	69.48	72.33	51.69
4.0	1.25	1.30	1.30	1.29	53.76	62.12	62.17	55.38	51.15	67.39	67.48	69.88	70.72	50.90
4.5	1.35	1.37	1.36	1.37	53.54	61.23	60.72	55.19	50.52	66.06	65.79	68.85	68.58	50.27
5.0	1.38	1.38	1.38	1.39	53.25	59.97	58.76	55.00	49.78	64.61	64.28	68.45	67.33	49.57
5.5	1.37	1.37	1.37	1.37	52.99	58.29	57.33	54.88	48.95	63.32	62.84	67.92	65.96	48.85
6.0	1.36	1.37	1.36	1.37	52.19	56.73	56.33	54.09	48.25	62.23	61.72	68.16	64.54	48.19
6.5	1.37	1.39	1.38	1.40	51.57	55.73	55.39	53.17	47.54	61.64	61.19	68.17	64.13	47.59
7.0	1.41	1.47	1.45	1.49	51.20	54.58	54.59	52.59	47.08	61.51	61.03	68.56	64.03	47.17
7.5	1.47	1.53	1.51	1.58	50.42	53.67	53.84	52.31	46.71	60.68	60.69	69.70	63.47	46.81
8.0	1.49	1.51	1.49	1.58	49.74	52.99	53.14	51.65	46.44	59.98	60.06	69.80	62.48	46.54
8.5	1.44	1.45	1.43	1.51	49.11	52.10	52.49	50.58	46.00	58.95	59.09	70.56	60.97	46.18
9.0	1.43	1.41	1.39	1.48	48.43	51.43	51.62	49.27	45.42	57.89	58.73	71.71	60.34	45.72
9.5	1.52	1.47	1.44	1.54	47.68	50.92	50.59	48.52	45.11	57.81	58.89	72.46	60.27	45.43
10.0	1.63	1.62	1.57	1.69	47.11	50.52	49.80	48.28	45.24	57.86	59.65	73.83	60.32	45.58
10.5	1.66	1.67	1.61	1.78	46.81	50.05	49.31	48.27	45.42	57.79	60.22	74.70	60.07	45.82
11.0	1.59	1.60	1.55	1.70	46.73	49.44	49.08	47.93	45.35	57.23	59.67	74.53	59.46	45.80
11.5	1.52	1.54	1.49	1.62	46.63	48.66	48.81	47.10	45.20	56.89	59.26	77.79	58.68	45.65
12.0	1.49	1.51	1.46	1.59	46.14	47.77	48.19	46.34	45.07	56.28	58.83	77.04	58.74	45.61
12.5	1.57	1.54	1.50	1.65	45.27	47.24	47.41	45.78	45.25	56.24	58.47	76.31	58.63	45.86
13.0	1.69	1.61	1.57	1.72	44.78	47.02	46.81	45.52	45.51	56.02	58.18	73.75	58.30	46.22
13.5	1.81	1.70	1.65	1.82	44.68	46.81	46.60	45.24	45.98	55.89	57.82	71.74	58.53	46.77
14.0	1.92	1.82	1.76	1.98	44.73	46.72	46.53	44.93	46.84	56.32	57.82	70.67	59.21	47.74
14.5	1.97	1.88	1.84	2.10	44.65	46.50	46.34	44.83	47.68	57.01	58.16	70.16	59.89	48.23
15.0	1.94	1.83	1.79	2.04	44.24	46.20	45.97	44.51	48.11	57.44	58.13	69.27	60.51	48.39
15.5	1.82	1.76	1.70	1.88	43.96	45.86	45.47	44.17	48.12	57.01	57.40	67.04	60.17	48.59
16.0	1.77	1.72	1.66	1.81	43.72	45.57	45.26	43.80	48.65	56.96	56.70	65.26	60.16	48.79
16.5	1.81	1.70	1.68	1.85	43.47	45.35	45.23	43.44	49.20	56.82	56.83	64.79	60.28	49.07
17.0	1.94	1.75	1.74	1.99	43.13	45.12	45.10	43.14	49.41	57.36	57.16	65.20	61.19	49.42
17.5	2.10	1.84	1.81	2.15	42.79	45.06	44.97	42.89	49.74	57.62	57.89	65.91	61.77	49.83
18.0	2.26	1.98	1.92	2.31	42.71	45.01	44.76	42.74	50.36	58.40	58.88	66.98	63.27	50.24
18.5	2.37	2.11	2.06	2.43	42.72	45.16	44.52	42.73	50.96	59.05	60.14	68.32	64.19	50.12
19.0	2.27	2.11	2.07	2.32	42.74	45.11	44.34	42.55	50.40	59.88	61.67	69.63	65.68	49.29
19.5	2.03	2.09	1.97	2.09	42.81	45.09	44.52	42.44	50.56	60.30	62.29	69.67	65.60	49.54
20.0	1.85	2.00	1.86	1.92	42.48	45.05	44.64	42.22	51.87	58.51	60.00	70.03	62.89	50.73
20.5	1.96	1.92	1.84	2.01	42.25	45.22	44.74	41.98	52.53	56.71	58.24	70.82	60.88	50.97
21.0	2.26	2.00	1.94	2.31	42.19	45.23	44.67	41.89	51.27	56.71	58.21	70.53	60.20	49.86
21.5	2.35	2.06	2.01	2.41	42.29	45.08	44.38	41.83	50.57	57.85	59.54	71.16	62.58	49.48
22.0	2.34	2.23	2.22	2.41	42.64	45.05	44.56	42.03	51.54	58.38	60.30	71.39	63.86	50.59
22.5	2.48	2.54	2.52	2.54	42.84	45.35	44.83	42.26	53.84	58.47	59.76	69.86	63.63	53.02
23.0	2.49	2.61	2.53	2.54	42.73	45.56	44.76	42.08	56.79	57.43	59.30	67.91	61.72	55.69
23.5	2.47	2.62	2.50	2.55	42.43	45.52	44.49	41.84	57.24	56.29	58.68	66.09	60.54	57.18
24.0	2.50	2.70	2.59	2.61	42.30	45.35	44.14	41.73	55.22	55.78	58.86	64.99	59.68	54.78
24.5	2.49	2.70	2.63	2.59	42.07	45.38	44.09	41.55	52.73	55.50	58.04	66.01	59.03	52.68
25.0	2.52	2.65	2.62	2.59	42.02	45.24	44.02	41.30	51.38	54.95	57.32	66.80	58.54	50.99
25.5	2.63	2.70	2.69	2.68	42.21	45.44	44.11	41.24	50.64	55.19	56.94	67.42	58.94	50.05
26.0	2.80	2.92	2.91	2.86	42.56	45.56	44.26	41.34	49.93	55.68	56.71	67.91	59.89	49.07
26.5	2.91	3.11	3.07	2.94	42.63	45.82	44.43	41.39	48.78	56.11	57.14	67.35	59.91	47.56
27.0	2.94	3.12	3.07	2.86	42.33	45.86	43.96	41.13	47.51	56.16	56.85	66.30	59.16	46.18
28.0	3.14	3.40	3.37	2.91	41.79	45.42	43.25	40.44	45.91	55.76	55.28	65.10	57.69	44.13
29.0	2.66	2.81	2.77	2.67	40.80	43.64	42.22	38.75	43.44	54.06	53.14	62.20	55.12	41.87
30.0	2.66	2.54	2.48	2.74	40.57	42.78	40.79	38.61	43.13	53.65	51.52	58.50	54.69	41.27

Typical Performance Data

Definitions:

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub>= +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = -40°C

FREQ	Return Loss								
	RFC	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (Off)	RF-OUT 2 (Off)	RF-OUT 3 (Off)	RF-OUT 4 (Off)
	(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.01	22.99	22.79	22.76	22.74	22.77	15.35	15.35	15.35	15.36
0.05	23.10	22.94	23.14	23.15	23.07	15.52	15.47	15.46	15.48
0.1	22.76	22.90	23.01	23.02	22.89	15.62	15.61	15.61	15.64
0.2	22.14	22.35	22.56	22.50	22.35	15.82	15.77	15.78	15.82
0.4	21.42	21.81	22.14	22.13	21.67	15.94	15.84	15.83	15.98
0.6	20.79	21.11	21.63	21.52	20.72	16.05	15.94	15.94	16.19
0.8	19.92	20.53	21.32	21.25	20.02	16.15	15.97	15.94	16.43
1.0	19.05	20.08	21.09	20.93	19.56	16.33	16.03	16.02	16.68
1.5	18.15	19.01	20.30	20.02	19.09	17.08	16.49	16.47	17.69
2.0	19.66	20.31	21.56	21.14	20.92	18.48	17.33	17.38	18.89
2.5	22.31	22.46	23.39	22.76	23.43	19.36	17.92	18.07	19.16
3.0	21.42	22.47	22.30	21.66	23.08	18.86	17.81	17.90	18.17
3.5	18.00	20.36	19.69	19.05	19.68	17.92	17.64	17.74	17.55
4.0	15.94	17.76	17.80	17.26	17.00	17.54	18.05	18.23	18.00
4.5	15.43	16.54	17.48	17.01	16.46	18.32	19.23	19.58	19.72
5.0	15.99	16.60	18.48	17.77	17.56	19.96	20.86	21.42	22.45
5.5	17.04	17.77	20.30	19.51	20.03	21.94	21.69	22.91	23.94
6.0	18.02	18.93	21.46	20.97	21.75	23.44	20.98	22.69	21.93
6.5	17.39	18.93	19.53	19.61	19.58	23.57	19.81	21.54	20.00
7.0	15.28	17.99	16.76	17.05	16.36	23.34	19.45	21.17	19.31
7.5	14.06	17.56	16.06	16.56	15.27	23.17	20.64	22.68	20.23
8.0	15.12	18.67	18.70	19.35	16.97	23.70	24.74	27.35	23.35
8.5	17.77	20.55	23.53	23.81	21.44	24.01	40.79	41.73	33.18
9.0	20.19	19.57	27.28	26.95	23.19	23.88	26.06	26.39	29.92
9.5	16.02	16.59	20.71	21.26	19.22	23.25	20.75	21.99	23.89
10.0	13.22	15.08	15.61	16.31	15.72	23.33	19.22	21.22	22.40
10.5	12.74	16.11	15.75	17.23	15.88	24.71	19.85	22.72	23.25
11.0	15.21	20.01	19.24	22.55	19.44	28.75	22.59	27.11	27.53
11.5	18.62	25.20	22.34	27.22	22.70	42.28	28.40	31.51	34.53
12.0	18.99	24.30	23.31	34.84	21.31	30.64	35.63	27.82	31.35
12.5	16.89	19.17	22.01	23.63	19.07	25.50	31.76	26.02	29.54
13.0	15.49	16.15	20.37	20.54	18.74	23.61	29.77	26.94	32.59
13.5	13.92	15.04	18.82	19.16	17.78	23.79	28.31	28.97	33.08
14.0	11.97	15.29	16.85	17.95	15.35	25.27	24.52	27.79	26.85
14.5	11.00	16.34	16.76	17.72	14.20	27.06	21.35	24.90	22.80
15.0	12.32	18.06	19.94	21.21	15.89	26.50	19.67	23.31	20.92
15.5	15.98	20.79	21.69	25.80	20.31	25.20	19.48	23.18	20.62
16.0	19.47	21.52	21.85	25.62	23.96	25.42	20.85	25.66	22.68
16.5	16.98	20.39	28.76	26.72	22.41	26.69	24.11	31.76	27.51
17.0	14.29	18.22	27.11	22.39	17.92	30.28	31.28	34.25	35.24
17.5	12.26	15.64	19.79	19.77	15.31	27.91	35.12	28.01	27.14
18.0	10.91	14.30	17.04	18.59	14.26	22.13	23.03	24.53	21.84
18.5	9.94	15.13	17.93	19.34	15.19	18.46	17.57	20.27	17.66
19.0	10.44	21.65	23.58	29.32	21.29	16.02	14.47	17.22	15.25
19.5	11.66	27.95	15.12	19.16	25.07	14.95	12.89	15.34	13.92
20.0	12.92	21.03	13.10	15.54	18.77	15.50	13.00	15.17	14.07
20.5	24.80	24.02	17.50	21.24	22.00	18.72	15.22	17.48	16.73
21.0	12.11	16.41	20.68	27.42	16.36	27.10	21.81	22.65	24.48
21.5	9.79	16.65	22.82	30.94	16.40	19.09	24.14	19.42	21.40
22.0	10.45	38.15	22.43	19.06	30.38	13.77	15.97	14.63	14.74
22.5	10.66	17.37	13.91	13.07	17.98	11.76	13.01	12.65	12.29
23.0	11.54	14.09	11.94	12.17	14.29	11.69	12.14	12.60	11.86
23.5	11.87	14.12	11.71	12.72	13.59	13.10	12.35	13.60	12.62
24.0	10.51	15.35	11.82	13.03	13.96	14.61	12.86	14.20	13.84
24.5	10.93	16.49	12.27	12.80	15.28	14.36	13.12	13.59	14.49
25.0	13.27	15.67	13.21	12.87	15.89	13.19	13.63	13.13	14.30
25.5	12.85	14.83	13.71	12.87	15.25	13.16	14.30	13.29	13.80
26.0	10.22	14.71	13.38	12.67	14.08	13.58	14.56	13.77	13.25
26.5	8.80	14.29	12.35	12.33	13.51	12.74	13.67	13.70	12.94
27.0	8.74	12.31	11.55	11.50	13.76	10.72	12.44	12.44	12.51
28.0	8.79	10.67	10.10	9.88	13.91	9.01	10.01	9.83	11.37
29.0	11.21	17.08	15.59	15.54	17.63	11.54	9.85	9.78	11.24
30.0	21.89	22.37	22.89	21.47	18.23	15.14	18.19	19.10	18.18

Typical Performance Data

Definitions:

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = -40°C

FREQ	Input Power at 1 dB Compression				Input Power at 0.1 dB Compression				Input IIP3			
	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)
(GHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
0.00010	12.64	12.60	12.62	12.63	8.86	8.48	8.67	8.69	21.28	21.07	21.37	21.24
0.00025	13.39	13.40	13.40	13.41	10.64	10.65	10.65	10.66	22.27	22.00	22.35	22.24
0.0005	13.10	13.30	13.11	13.12	10.32	10.33	10.33	10.34	20.48	20.44	20.44	20.42
0.00075	13.08	13.09	13.09	13.10	10.28	10.30	10.30	10.50	20.62	20.58	20.60	20.59
0.001	13.06	13.07	13.07	13.08	10.27	10.48	10.48	10.48	20.46	20.40	20.42	20.43
0.01	18.30	17.50	17.51	18.72	11.67	11.42	11.43	12.45	30.70	28.74	28.72	30.61
0.10	25.15	24.76	24.75	25.15	21.84	21.63	21.63	21.84	48.19	46.88	47.39	48.69
0.25	25.96	25.38	25.38	25.97	22.65	22.25	22.25	22.85	42.84	41.01	41.41	42.94
0.5	27.03	26.55	26.54	27.04	23.64	22.86	22.86	23.65	49.43	48.31	48.18	49.19
0.8	27.13	26.71	26.71	27.14	24.30	23.30	23.30	24.29	47.57	47.44	47.43	47.51
1.0	27.45	27.36	27.20	27.47	25.23	24.62	24.44	25.23	46.19	46.15	46.08	46.02
2.0	28.04	27.84	27.84	28.19	26.07	25.67	25.67	26.25	46.53	46.90	46.90	46.35
4.0	28.30	28.45	28.60	28.59	26.51	26.32	26.32	26.86	46.39	46.09	45.30	45.41
6.0	28.40	28.50	28.35	28.38	26.63	26.74	26.57	26.60	45.95	46.41	46.51	46.21
8.0	28.40	28.38	28.09	28.38	26.17	26.15	26.00	25.96	47.81	47.48	45.68	47.05
10.0	27.52	28.05	27.70	27.71	24.96	25.53	25.37	25.16	46.72	47.06	47.59	47.24
15.0	27.98	27.85	27.92	27.77	24.83	24.91	25.41	25.03	44.70	45.35	45.36	45.26
18.0	27.00	26.87	27.15	27.35	25.94	25.67	25.51	26.01	43.46	42.23	44.88	44.04
21.0	28.61	28.66	28.65	28.67	24.85	25.23	25.13	24.72	43.13	43.62	44.80	44.17
24.0	28.79	28.81	28.80	28.78	25.81	26.98	26.60	25.54	38.91	38.00	40.32	40.00
27.0	28.67	28.56	28.60	28.64	26.05	27.88	27.93	26.01	38.00	36.77	39.07	39.52
30.0	28.07	29.03	29.02	28.13	24.75	27.43	27.30	24.82	37.65	36.26	36.28	38.24

Typical Performance Data (Low Frequency)

Definitions:

STATE	V <sub>C1</sub>	V <sub>C2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = +85°C

FREQ	Insertion Loss				Isolation									
	RFC - RF-OUT 1	RFC - RF-OUT 2	RFC - RF-OUT 3	RFC - RF-OUT 4	RFC - RF-OUT 1	RFC - RF-OUT 2	RFC - RF-OUT 3	RFC - RF-OUT 4	RF-OUT1 - RF-OUT2	RF-OUT1 - RF-OUT3	RF-OUT1 - RF-OUT4	RF-OUT2 - RF-OUT3	RF-OUT2 - RF-OUT4	RF-OUT3 - RF-OUT4
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.009	0.94	0.95	0.95	0.93	80.07	79.72	80.70	78.38	78.49	82.09	79.44	80.83	84.00	80.50
0.25	0.93	0.94	0.94	0.92	80.73	81.28	80.91	80.55	81.75	82.79	82.34	81.90	82.45	82.42
0.5	0.93	0.94	0.94	0.92	80.79	80.96	80.95	81.10	82.02	82.90	82.69	82.52	82.41	81.75
0.75	0.93	0.94	0.94	0.92	80.89	80.87	80.86	80.89	82.41	82.26	82.62	82.48	82.47	81.48
1	0.93	0.94	0.93	0.92	80.84	81.04	81.02	80.88	81.87	82.83	82.88	82.50	82.42	81.99
2	0.93	0.94	0.93	0.92	80.85	81.12	80.83	80.77	81.97	82.48	82.38	82.70	82.59	82.06
3	0.92	0.94	0.93	0.92	80.81	80.92	81.03	80.91	82.07	82.48	82.75	82.60	82.86	81.76
4	0.92	0.94	0.93	0.92	80.77	80.88	81.06	80.78	81.84	82.67	82.65	82.48	82.76	81.77
5	0.92	0.94	0.93	0.92	80.54	80.78	80.90	80.75	81.59	82.69	82.46	82.37	82.48	81.50
6	0.92	0.93	0.93	0.92	80.41	80.67	80.79	80.51	81.35	82.35	82.55	82.38	82.28	81.27
7	0.92	0.93	0.93	0.92	80.04	80.67	80.67	80.33	81.34	82.19	82.41	82.19	82.18	80.98
8	0.92	0.93	0.93	0.92	79.86	80.24	80.35	80.07	80.90	81.97	82.13	82.11	82.16	80.64
9	0.92	0.93	0.93	0.92	79.62	79.99	80.27	79.86	80.61	81.87	82.23	81.65	81.81	80.40
10	0.92	0.93	0.93	0.92	79.28	79.68	80.01	79.53	80.28	81.72	81.96	81.65	81.66	80.02
20	0.91	0.93	0.93	0.92	77.28	77.79	78.12	77.55	78.15	80.04	80.42	79.85	79.96	77.60
30	0.92	0.93	0.93	0.92	76.21	76.73	77.16	76.38	77.02	78.89	79.57	78.84	78.93	76.45
40	0.92	0.94	0.93	0.92	75.71	76.14	76.48	76.01	76.16	78.42	79.10	78.44	78.47	75.79
50	0.91	0.94	0.93	0.92	75.54	75.94	76.25	75.82	76.04	78.28	79.16	78.21	78.31	75.48
60	0.92	0.94	0.93	0.92	75.38	75.90	76.29	75.75	75.87	78.13	79.31	78.22	78.51	75.15
70	0.91	0.94	0.94	0.92	75.46	75.91	76.42	75.81	75.81	78.30	79.55	78.26	78.38	75.15
80	0.92	0.94	0.94	0.93	75.58	75.97	76.49	75.88	75.88	78.44	79.70	78.35	78.29	75.12
90	0.92	0.94	0.94	0.93	75.65	76.07	76.67	76.06	75.84	78.64	80.00	78.65	78.69	75.14
100	0.92	0.94	0.94	0.93	75.63	76.39	76.85	76.25	75.92	78.86	80.38	78.75	78.91	75.17

*Typical Performance Data (Low Frequency)*

**Definitions:**

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = +85°C

FREQ	Return Loss								
	RF	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (Off)	RF-OUT 2 (Off)	RF-OUT 3 (Off)	RF-OUT 4 (Off)
	(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.009	20.05	20.45	20.47	21.28	21.31	15.52	15.46	15.05	15.06
0.25	20.57	21.00	21.04	21.83	21.87	15.55	15.51	15.09	15.09
0.5	20.57	21.00	21.04	21.83	21.87	15.55	15.51	15.09	15.10
0.75	20.57	21.01	21.04	21.83	21.87	15.55	15.52	15.09	15.10
1	20.58	21.01	21.05	21.84	21.88	15.55	15.51	15.09	15.10
2	20.60	21.05	21.07	21.86	21.91	15.52	15.52	15.10	15.10
3	20.60	21.05	21.06	21.84	21.90	15.51	15.53	15.11	15.11
4	20.59	21.06	21.06	21.85	21.90	15.51	15.53	15.11	15.11
5	20.58	21.07	21.07	21.85	21.90	15.51	15.53	15.11	15.11
6	20.57	21.09	21.07	21.86	21.90	15.51	15.53	15.11	15.11
7	20.57	21.08	21.07	21.86	21.90	15.51	15.53	15.11	15.12
8	20.56	21.09	21.07	21.86	21.90	15.51	15.53	15.12	15.12
9	20.57	21.09	21.07	21.86	21.90	15.50	15.54	15.13	15.13
10	20.57	21.08	21.07	21.88	21.91	15.51	15.54	15.14	15.14
20	20.57	21.08	21.05	21.86	21.89	15.53	15.56	15.15	15.16
30	20.55	21.04	21.02	21.84	21.86	15.54	15.57	15.16	15.17
40	20.54	20.98	20.98	21.79	21.81	15.56	15.59	15.17	15.18
50	20.52	20.94	20.95	21.76	21.78	15.59	15.61	15.19	15.21
60	20.49	20.89	20.92	21.72	21.73	15.61	15.63	15.20	15.22
70	20.45	20.83	20.87	21.67	21.67	15.64	15.63	15.22	15.24
80	20.40	20.77	20.83	21.63	21.62	15.66	15.65	15.24	15.26
90	20.36	20.72	20.78	21.57	21.56	15.67	15.66	15.25	15.28
100	20.32	20.68	20.73	21.51	21.49	15.68	15.67	15.27	15.30

Typical Performance Data

Definitions:

STATE	V <sub>C1</sub>	V <sub>C2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = +85°C

FREQ	Insertion Loss				Isolation									
	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT 1	RF-OUT 2	RF-OUT 3	RF-OUT 4	RF-OUT1 - RF-OUT2	RF-OUT1 - RF-OUT3	RF-OUT1 - RF-OUT4	RF-OUT2 - RF-OUT3	RF-OUT2 - RF-OUT4	RF-OUT3 - RF-OUT4
(GHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.01	0.91	0.92	0.93	0.92	76.47	73.27	75.48	73.81	78.04	76.64	79.91	78.97	75.90	74.11
0.05	0.91	0.93	0.93	0.92	74.79	76.65	75.10	75.23	75.37	78.51	75.95	77.02	77.61	76.14
0.1	0.91	0.93	0.93	0.93	74.50	77.43	75.97	75.42	76.94	78.37	80.18	76.49	77.91	74.91
0.2	0.91	0.94	0.94	0.94	74.71	79.95	78.89	75.65	73.84	82.11	83.23	82.08	80.81	73.30
0.4	0.95	0.97	0.98	0.98	69.40	79.53	81.28	70.33	68.03	83.27	86.21	82.06	85.89	68.05
0.6	0.98	1.01	1.02	1.02	66.10	76.12	75.80	67.34	64.94	82.57	83.19	78.60	82.29	64.27
0.8	1.03	1.06	1.07	1.07	63.65	72.73	72.81	64.83	62.49	78.56	80.15	76.34	78.66	62.39
1.0	1.08	1.11	1.12	1.12	62.00	70.73	71.24	62.93	60.81	76.39	79.31	75.19	77.65	60.67
1.5	1.20	1.22	1.23	1.23	58.70	67.53	68.34	59.98	57.56	74.11	76.17	72.18	74.05	57.33
2.0	1.26	1.29	1.30	1.29	56.72	65.57	65.93	57.93	55.38	72.20	73.56	70.25	72.80	55.22
2.5	1.28	1.32	1.33	1.32	55.29	63.74	64.59	56.55	53.85	71.62	72.78	69.26	71.47	53.66
3.0	1.27	1.31	1.33	1.31	54.37	62.90	63.24	55.76	52.70	69.93	71.09	68.28	70.61	52.51
3.5	1.29	1.35	1.37	1.35	53.72	62.05	62.60	55.19	51.86	69.35	70.47	68.19	70.31	51.69
4.0	1.40	1.44	1.46	1.46	53.34	61.66	62.10	54.73	51.12	69.37	68.80	68.41	70.04	50.95
4.5	1.51	1.52	1.54	1.56	53.00	61.38	61.74	54.65	50.49	67.58	67.56	68.98	70.21	50.31
5.0	1.55	1.54	1.56	1.58	52.78	61.23	60.36	54.41	49.88	66.23	66.11	68.36	69.84	49.67
5.5	1.54	1.53	1.56	1.56	52.71	59.95	58.75	54.41	49.10	65.03	64.50	68.22	67.85	49.03
6.0	1.52	1.52	1.55	1.55	52.39	58.21	57.66	54.21	48.45	63.32	62.88	68.24	66.30	48.41
6.5	1.53	1.54	1.56	1.57	51.90	56.85	56.72	53.76	47.80	62.86	62.30	68.31	65.97	47.88
7.0	1.58	1.62	1.63	1.67	51.48	55.69	55.74	53.25	47.36	62.78	62.45	68.85	65.80	47.52
7.5	1.66	1.70	1.71	1.78	50.80	54.80	54.98	52.93	47.10	62.22	62.32	69.83	64.93	47.22
8.0	1.67	1.69	1.70	1.77	50.18	54.06	54.20	52.29	46.78	61.38	61.17	70.08	63.83	46.95
8.5	1.63	1.64	1.65	1.71	49.63	53.13	53.39	51.16	46.32	60.05	60.27	71.29	62.40	46.56
9.0	1.64	1.61	1.62	1.68	48.90	52.35	52.55	49.98	45.81	59.09	60.16	72.31	61.87	46.12
9.5	1.76	1.68	1.69	1.77	48.23	51.91	51.58	49.27	45.61	59.27	60.82	72.77	62.04	45.99
10.0	1.87	1.83	1.83	1.92	47.64	51.54	50.78	49.11	45.77	59.33	61.46	73.98	61.86	46.15
10.5	1.88	1.87	1.86	1.96	47.42	50.88	50.24	48.96	45.88	58.96	61.68	75.18	61.47	46.30
11.0	1.82	1.83	1.82	1.91	47.27	50.20	49.87	48.61	45.77	58.20	61.10	75.63	60.77	46.27
11.5	1.76	1.77	1.76	1.85	47.09	49.30	49.46	47.77	45.67	57.87	60.65	78.72	59.83	46.14
12.0	1.76	1.75	1.73	1.84	46.51	48.49	48.79	46.91	45.60	57.49	60.37	79.43	60.28	46.20
12.5	1.83	1.78	1.78	1.91	45.68	47.92	48.09	46.33	45.83	57.44	60.07	76.93	60.20	46.47
13.0	1.96	1.86	1.86	2.01	45.33	47.77	47.54	46.03	46.13	57.28	59.61	75.33	60.00	46.88
13.5	2.10	1.96	1.96	2.14	45.28	47.55	47.33	45.86	46.69	57.36	59.35	73.81	60.51	47.55
14.0	2.20	2.07	2.06	2.29	45.28	47.45	47.26	45.63	47.59	57.95	59.65	70.95	61.01	48.42
14.5	2.22	2.11	2.11	2.35	45.15	47.19	46.98	45.46	48.21	58.59	59.73	71.57	61.72	48.65
15.0	2.17	2.06	2.06	2.28	44.69	46.81	46.62	45.06	48.44	58.61	59.30	70.47	61.99	48.84
15.5	2.11	2.02	2.01	2.20	44.41	46.49	46.17	44.67	48.70	58.20	58.51	69.79	61.87	49.02
16.0	2.12	2.01	2.00	2.20	44.15	46.15	45.95	44.24	49.30	58.55	58.18	68.47	62.26	49.32
16.5	2.19	2.03	2.05	2.27	43.91	45.99	45.96	43.96	49.66	58.68	58.63	67.81	62.95	49.54
17.0	2.29	2.08	2.11	2.39	43.59	45.83	45.77	43.69	49.93	59.14	59.09	68.71	63.77	49.94
17.5	2.46	2.19	2.20	2.57	43.34	45.82	45.63	43.47	50.31	59.37	60.00	68.98	64.70	50.39
18.0	2.67	2.35	2.34	2.77	43.31	45.74	45.44	43.35	50.95	60.36	61.06	68.46	66.60	50.86
18.5	2.76	2.47	2.47	2.85	43.29	45.93	45.27	43.28	51.19	60.96	63.11	69.45	67.78	50.11
19.0	2.64	2.49	2.48	2.74	43.32	45.77	45.18	43.17	50.59	61.99	64.30	69.90	68.91	49.63
19.5	2.43	2.48	2.40	2.55	43.31	45.90	45.38	43.08	51.22	61.07	64.08	71.22	66.92	50.31
20.0	2.30	2.34	2.28	2.42	43.00	45.89	45.46	42.83	52.44	59.31	61.83	71.34	64.08	51.32
20.5	2.48	2.30	2.29	2.58	42.91	46.05	45.59	42.65	52.20	57.70	60.82	72.88	62.44	50.90
21.0	2.74	2.45	2.44	2.86	42.84	45.98	45.53	42.54	51.24	57.89	60.86	72.22	62.25	50.07
21.5	2.80	2.56	2.58	2.93	42.99	45.85	45.30	42.54	51.21	59.49	61.83	74.85	64.22	50.38
22.0	2.81	2.72	2.77	2.93	43.27	45.94	45.45	42.73	52.72	59.62	62.12	75.12	65.50	51.91
22.5	2.88	2.92	2.94	3.01	43.34	46.21	45.56	42.83	54.98	59.09	61.00	73.67	64.47	54.19
23.0	2.91	2.99	2.95	3.06	43.26	46.36	45.58	42.65	57.52	58.39	60.74	71.06	63.02	56.53
23.5	2.94	3.04	2.98	3.09	43.06	46.35	45.29	42.44	57.37	57.50	60.45	68.77	61.97	57.38
24.0	2.90	3.03	3.01	3.05	42.87	46.11	44.92	42.30	54.96	56.80	60.37	67.01	60.47	54.42
24.5	2.87	2.97	3.00	3.01	42.59	46.08	44.86	42.01	52.66	56.30	58.99	68.64	60.02	52.42
25.0	2.99	3.03	3.08	3.12	42.69	46.10	44.90	41.89	51.82	55.89	58.16	69.13	59.83	51.46
25.5	3.24	3.28	3.33	3.35	43.02	46.41	45.07	42.03	51.35	56.48	57.87	69.43	60.91	50.66
26.0	3.39	3.48	3.52	3.47	43.26	46.46	45.11	42.09	50.23	57.07	57.70	69.36	61.45	49.16
26.5	3.34	3.48	3.49	3.39	43.18	46.43	45.06	41.89	48.81	57.09	57.24	67.95	60.96	47.52
27.0	3.32	3.44	3.45	3.32	42.75	46.35	44.64	41.58	47.71	57.17	56.91	67.06	60.32	46.49
28.0	3.54	3.78	3.85	3.46	42.36	45.96	43.93	41.02	46.27	56.90	55.70	65.79	59.05	44.63
29.0	3.24	3.16	3.19	3.32	41.46	44.25	42.98	39.32	44.25	55.04	53.65	62.68	56.19	42.74
30.0	3.23	3.01	3.03	3.37	41.41	43.47	41.53	39.29	44.15	55.16	52.50	59.08	56.58	42.17

Typical Performance Data

Definitions:

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub>= +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = +85°C

FREQ	Return Loss								
	RF	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (Off)	RF-OUT 2 (Off)	RF-OUT 3 (Off)	RF-OUT 4 (Off)
	(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.01	21.04	21.00	20.90	20.87	20.89	15.38	15.45	15.45	15.46
0.05	20.97	20.90	20.95	20.91	20.92	15.53	15.56	15.57	15.58
0.1	20.76	20.90	20.84	20.78	20.80	15.55	15.65	15.67	15.68
0.2	20.36	20.47	20.57	20.55	20.50	15.75	15.76	15.76	15.80
0.4	19.73	19.93	20.21	20.19	19.85	16.01	15.99	15.97	16.12
0.6	19.23	19.40	19.94	19.88	19.18	16.27	16.09	16.10	16.42
0.8	18.64	19.07	19.77	19.74	18.73	16.40	16.22	16.19	16.69
1.0	18.09	18.95	19.85	19.76	18.54	16.58	16.33	16.29	17.01
1.5	17.65	18.51	19.88	19.65	18.62	17.31	16.79	16.75	17.98
2.0	18.67	19.38	20.89	20.51	20.00	18.73	17.56	17.56	19.06
2.5	20.37	20.53	21.65	21.07	21.30	19.81	18.29	18.36	19.53
3.0	19.57	20.58	20.77	20.03	20.97	19.53	18.43	18.56	18.99
3.5	17.33	19.92	19.24	18.49	19.19	18.46	18.23	18.57	18.47
4.0	15.76	17.88	17.80	17.32	17.29	17.82	18.39	18.92	18.70
4.5	15.03	16.18	17.07	16.80	16.40	18.27	19.28	19.84	19.92
5.0	15.21	15.86	17.53	17.10	16.85	19.90	20.83	21.25	22.09
5.5	16.17	16.91	19.23	18.43	18.73	22.49	22.19	22.93	24.38
6.0	17.49	18.43	20.61	19.75	20.81	25.02	22.01	23.60	23.66
6.5	16.91	18.52	19.09	18.75	19.65	25.24	21.02	22.90	21.49
7.0	14.89	17.91	16.82	16.81	16.69	24.71	20.77	22.63	20.53
7.5	13.96	18.10	16.59	16.74	15.68	24.90	22.21	24.28	21.43
8.0	15.19	19.90	19.14	19.42	17.52	25.40	26.74	29.83	25.05
8.5	18.08	21.14	21.89	21.92	20.51	24.98	43.04	35.54	36.62
9.0	19.27	18.65	23.90	25.09	22.00	23.83	27.03	25.96	31.04
9.5	15.24	15.89	19.96	20.24	19.07	23.43	22.11	22.56	24.88
10.0	13.11	15.47	16.44	16.62	16.30	24.31	20.72	22.07	23.69
10.5	13.47	17.90	17.11	18.07	17.25	26.79	21.44	23.56	25.27
11.0	15.95	22.82	19.66	21.02	20.96	31.60	24.30	25.94	30.21
11.5	18.82	27.93	21.55	23.99	24.40	32.70	30.94	26.49	44.94
12.0	18.47	24.88	23.89	38.40	23.50	27.97	49.55	25.15	34.54
12.5	16.79	19.22	22.38	24.12	20.18	25.00	31.52	24.60	30.47
13.0	15.45	16.17	19.39	19.55	18.32	23.74	27.85	25.55	30.49
13.5	13.70	15.18	18.00	18.39	17.51	23.59	26.72	27.68	31.88
14.0	12.21	16.66	18.33	19.50	16.98	24.72	25.71	29.73	30.75
14.5	12.10	20.24	20.48	22.00	17.16	27.61	24.21	29.49	27.25
15.0	13.99	22.42	23.42	26.74	19.20	33.03	22.92	28.27	25.03
15.5	16.97	21.85	22.30	26.43	21.56	32.75	22.35	27.80	24.19
16.0	17.95	20.15	22.79	25.39	22.79	28.18	23.02	29.13	25.03
16.5	16.24	19.71	28.46	25.77	22.55	26.50	25.26	32.49	28.27
17.0	15.03	19.68	28.86	23.87	19.51	27.74	31.40	33.07	34.20
17.5	12.88	17.24	21.01	21.13	16.53	28.71	34.93	28.75	28.17
18.0	10.93	15.46	18.28	20.02	15.42	22.63	22.90	24.65	22.11
18.5	10.12	17.26	20.67	22.40	17.26	18.65	17.73	20.71	18.13
19.0	10.96	30.08	21.47	30.03	27.74	16.36	15.05	17.83	15.79
19.5	12.35	23.84	14.81	17.98	21.76	16.02	13.91	16.30	14.76
20.0	16.54	24.24	14.87	17.38	20.78	17.59	14.43	16.73	15.56
20.5	18.06	22.38	20.61	25.93	22.07	22.51	17.26	19.41	19.02
21.0	11.68	17.80	22.04	30.35	17.27	24.98	24.73	23.15	28.06
21.5	10.60	22.11	30.27	30.20	20.37	17.56	22.16	18.49	19.97
22.0	11.66	27.48	19.13	16.90	31.26	13.93	15.64	14.65	14.68
22.5	11.90	17.09	13.58	13.22	17.15	12.44	13.06	13.07	12.58
23.0	12.10	14.67	12.14	12.81	14.35	12.46	12.43	13.32	12.43
23.5	11.54	14.41	12.10	13.61	14.09	13.73	13.04	14.79	13.71
24.0	11.61	16.35	13.21	14.34	15.69	15.72	14.33	15.52	15.48
24.5	13.96	19.15	14.52	14.10	17.98	16.09	15.00	14.50	16.00
25.0	14.57	18.10	14.65	13.57	17.53	14.37	14.78	13.59	15.00
25.5	11.40	15.18	13.69	12.82	15.23	13.13	14.41	13.46	13.86
26.0	9.84	13.91	13.23	13.09	14.25	12.78	14.42	14.26	13.58
26.5	10.23	14.21	13.18	13.77	15.07	12.66	14.12	14.79	13.84
27.0	11.42	14.07	12.86	13.01	16.14	11.91	13.22	13.49	13.77
28.0	8.89	12.20	11.20	10.59	15.21	10.06	10.71	10.26	12.17
29.0	13.02	17.07	20.31	19.04	18.48	12.18	11.32	10.72	12.33
30.0	18.40	22.88	20.75	18.76	18.78	17.70	20.66	23.53	20.84

Typical Performance Data

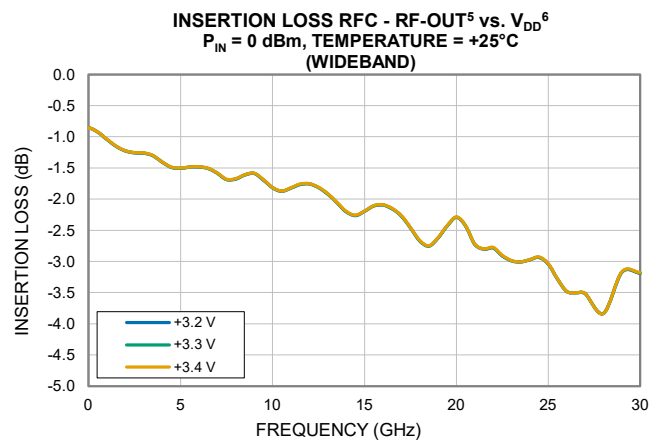
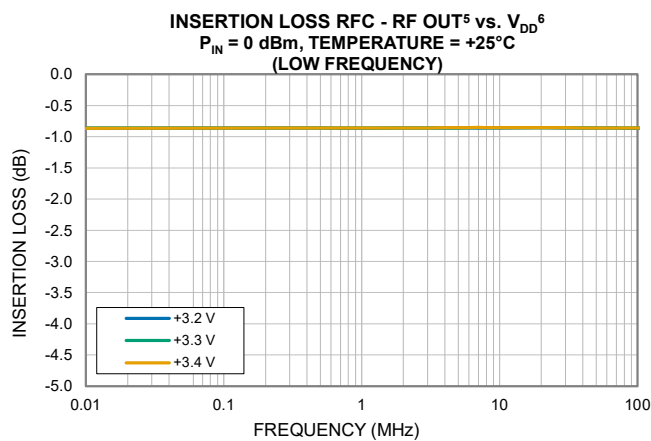
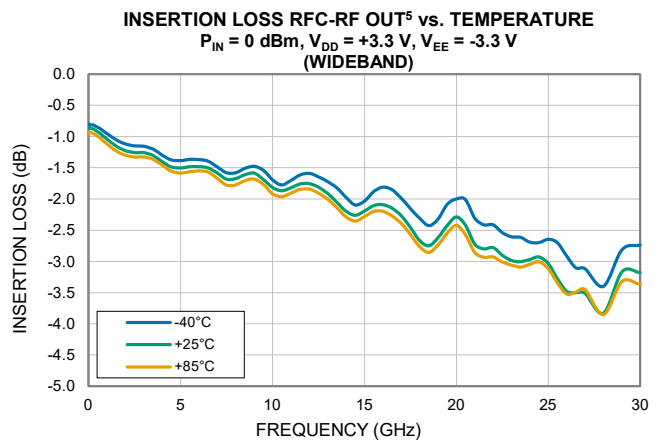
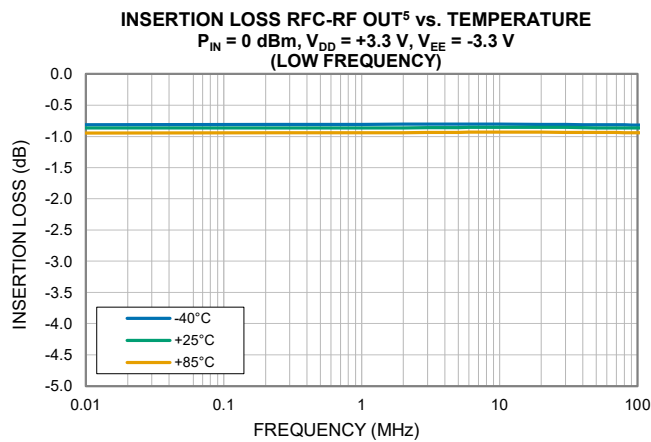
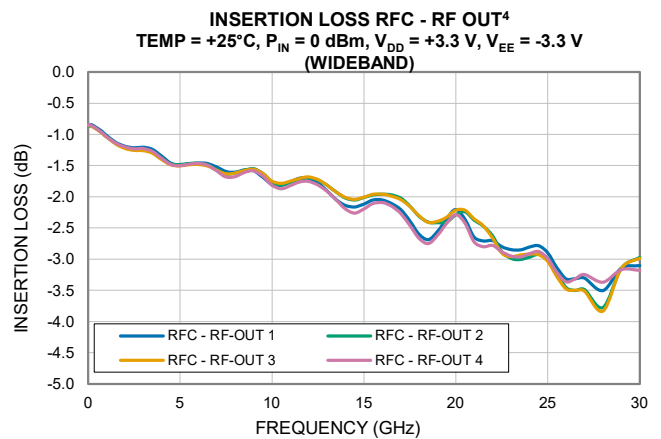
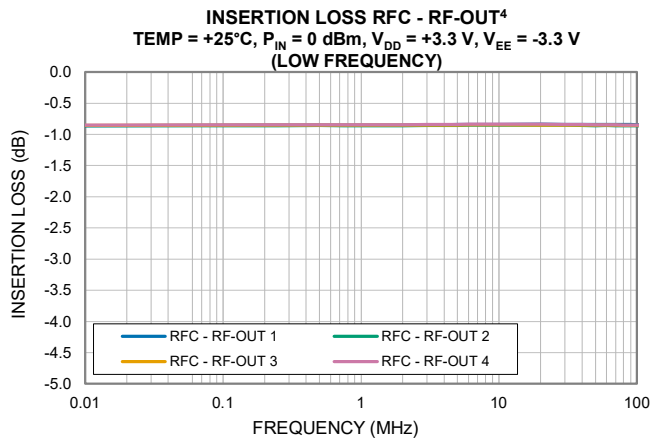
Definitions:

STATE	V <sub>c1</sub>	V <sub>c2</sub>	MODE
1	LOW	LOW	RF-OUT1 ON
2	HIGH	LOW	RF-OUT2 ON
3	LOW	HIGH	RF-OUT3 ON
4	HIGH	HIGH	RF-OUT4 ON

TEST CONDITIONS: V<sub>DD</sub> = +3.3V, V<sub>EE</sub> = -3.3V @ Temperature = +85°C

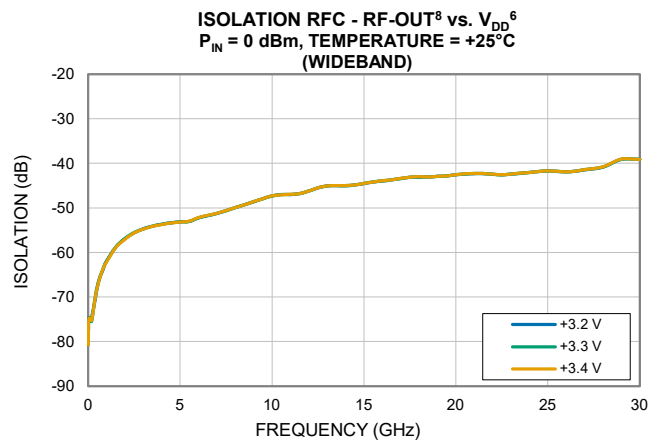
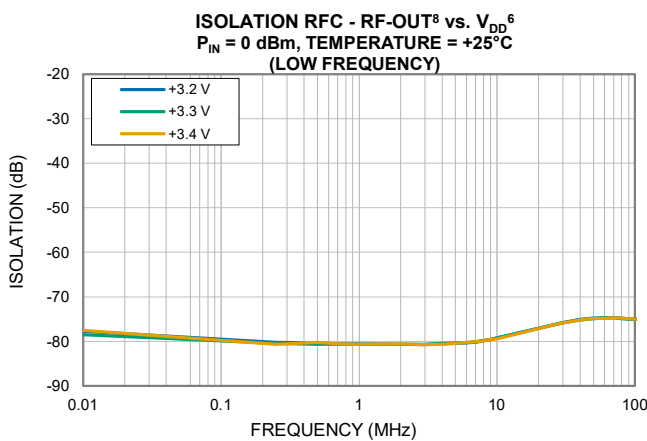
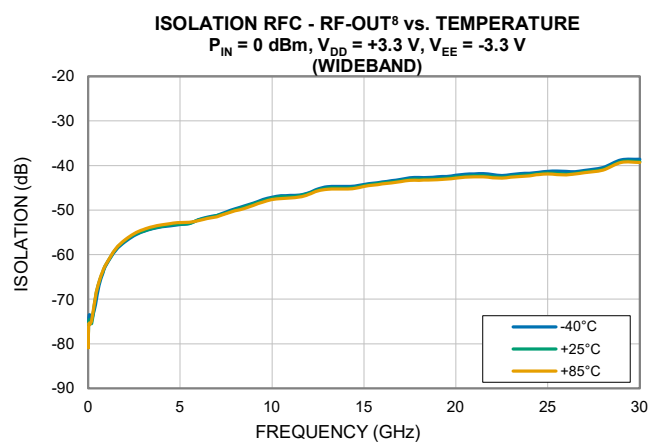
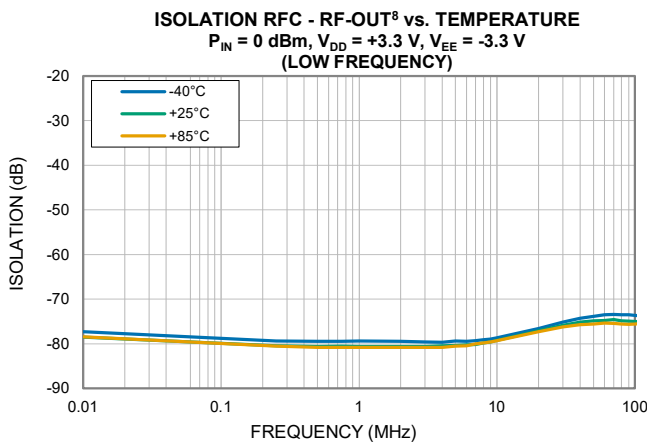
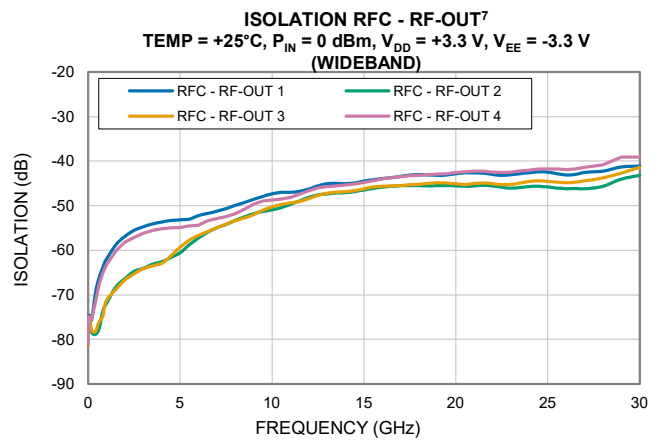
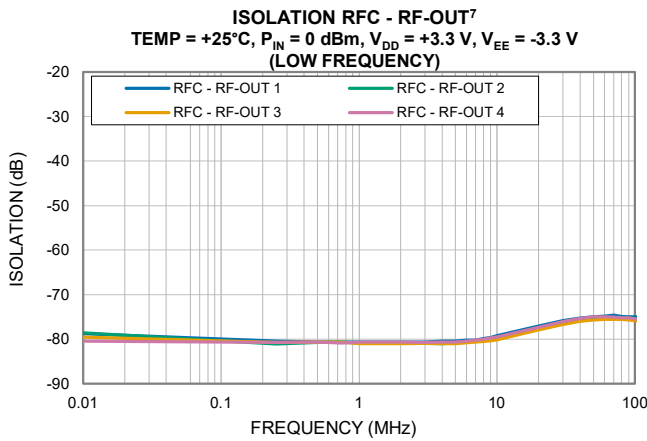
FREQ	Input Power at 1 dB Compression				Input Power at 0.1 dB Compression				Input IIP3			
	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)	RF-OUT 1 (On)	RF-OUT 2 (On)	RF-OUT 3 (On)	RF-OUT 4 (On)
(GHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
0.00010	14.21	14.36	14.19	14.19	10.57	10.72	10.20	10.37	21.99	21.71	23.08	24.31
0.00025	14.24	14.41	14.21	14.21	11.30	11.28	11.27	11.26	23.17	22.31	24.13	25.51
0.0005	14.34	14.50	14.49	14.30	11.41	11.39	11.37	11.36	27.31	27.37	27.07	27.00
0.00075	14.32	14.49	14.47	14.47	11.38	11.35	11.34	11.33	27.62	27.64	27.39	27.31
0.001	14.49	14.48	14.46	14.45	11.36	11.34	11.32	11.31	27.49	27.40	27.17	27.18
0.01	20.14	19.72	19.70	20.11	14.99	14.02	14.01	14.95	35.23	34.36	34.26	35.30
0.10	24.56	24.37	24.37	24.76	20.04	20.84	20.84	21.24	43.80	43.33	43.20	43.79
0.25	25.57	25.18	25.17	25.96	21.84	21.84	21.64	22.24	41.51	42.68	42.82	42.44
0.5	26.73	26.30	26.32	26.91	22.62	22.42	22.42	23.21	46.31	46.17		46.36
0.8	26.41	26.58	26.41	26.79	23.49	23.10	22.90	23.69	46.16	45.67	45.50	46.16
1.0	27.05	27.20	27.19	27.42	24.03	24.02	23.83	24.84	45.11	44.85	45.09	45.13
2.0	27.87	27.83	27.67	27.85	25.09	24.48	24.49	25.27	45.79	45.90	45.91	45.85
4.0	28.00	28.16	28.16	28.30	25.21	25.01	25.01	25.39	45.30	45.18	45.11	45.03
6.0	28.23	28.21	28.01	28.21	25.35	25.33	25.11	25.32	45.46	45.72	45.52	45.61
8.0	28.22	28.09	28.08	28.21	25.31	24.95	24.72	24.89	45.25	45.09	45.80	45.92
10.0	27.90	28.11	27.88	28.09	24.30	24.32	24.28	24.30	45.09	45.57	45.19	45.11
15.0	28.37	28.12	28.29	28.37	24.37	24.33	24.29	24.38	44.36	44.40	44.89	44.56
18.0	27.26	27.06	27.19	27.21	24.21	24.56	24.54	24.03	43.72	43.97	44.05	43.51
21.0	28.48	28.58	28.47	28.22	23.66	24.52	24.29	23.43	43.64	44.03	43.93	43.50
24.0	28.61	28.75	28.73	28.44	24.44	25.83	25.67	23.90	40.77	40.85	40.69	40.23
27.0	27.99	28.35	28.42	27.77	23.97	26.67	26.71	23.75	40.39	39.91	39.98	40.16
30.0	26.70	28.90	28.90	26.35	22.48	25.75	25.66	22.05	40.16	38.12	37.91	39.96

## Typical Performance Curves



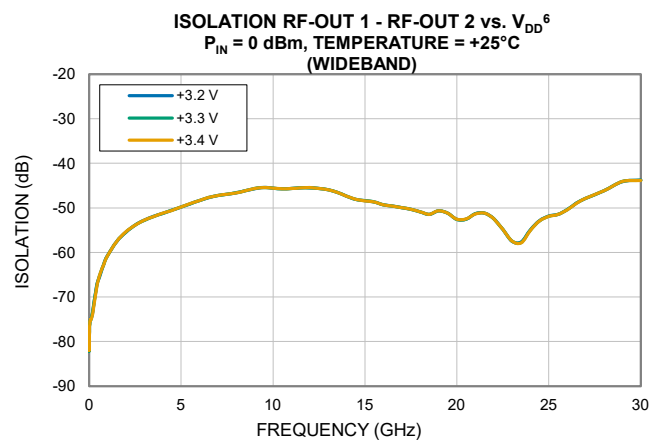
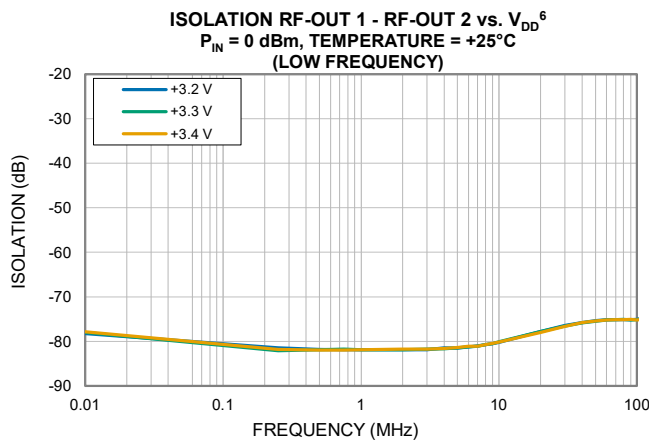
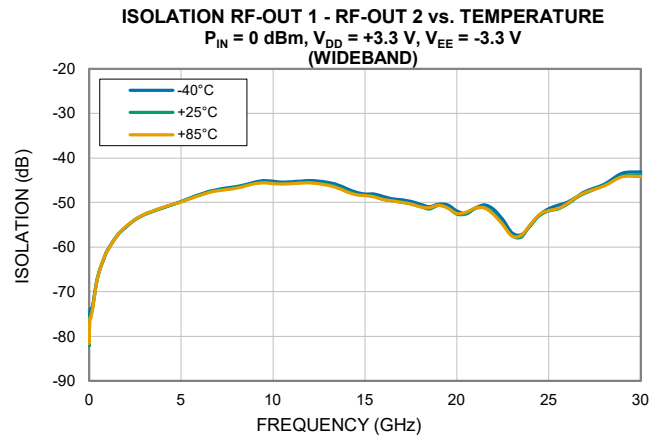
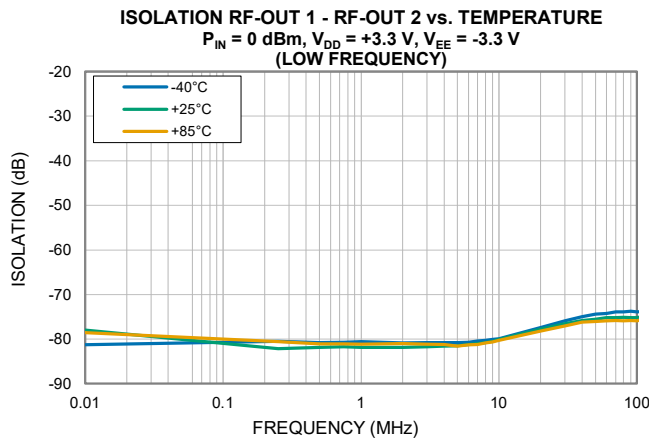
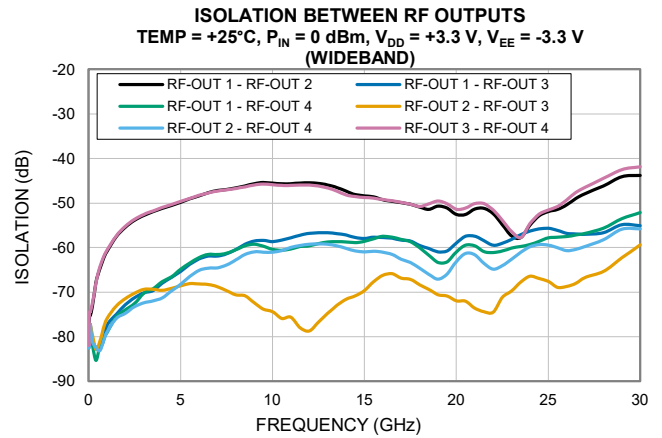
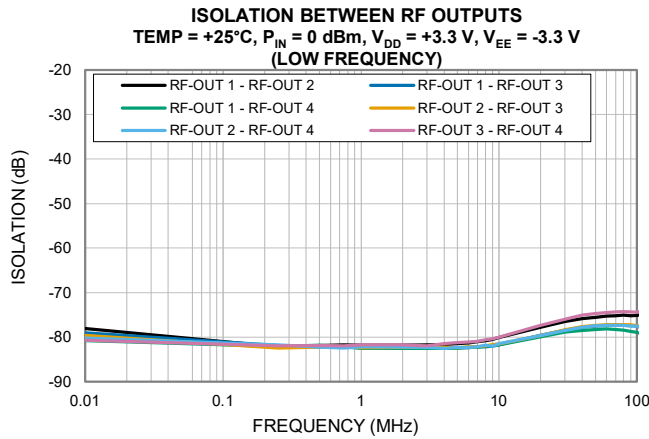
4. RF-OUT defined as either RF-OUT 1 (ON), RF-OUT 2 (ON), RF-OUT 3 (ON), or RF-OUT 4 (ON)
5. RF-OUT defined as the worst of RFC to RF-OUT 1 (ON), RF-OUT 2 (ON), RF-OUT 3 (ON), or RF-OUT 4 (ON)
6. V<sub>EE</sub> is the negative equivalent value to V<sub>DD</sub>. Both V<sub>DD</sub> and V<sub>EE</sub> are varied.

## Typical Performance Curves



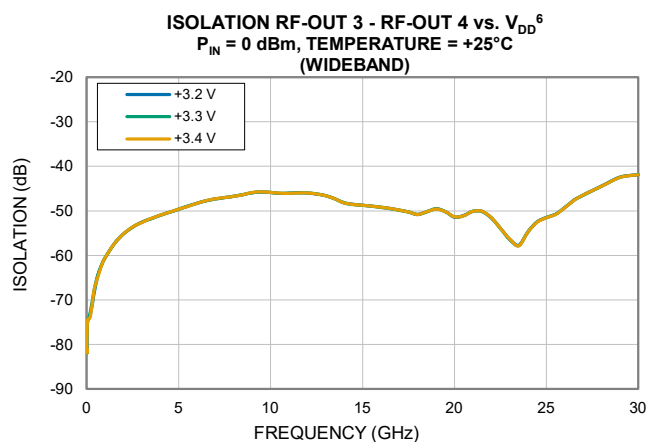
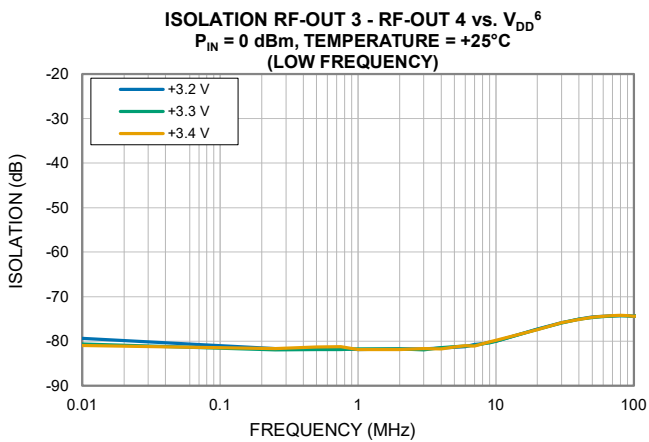
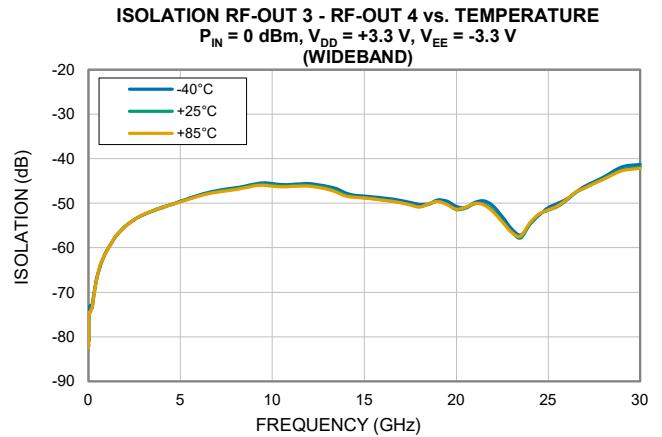
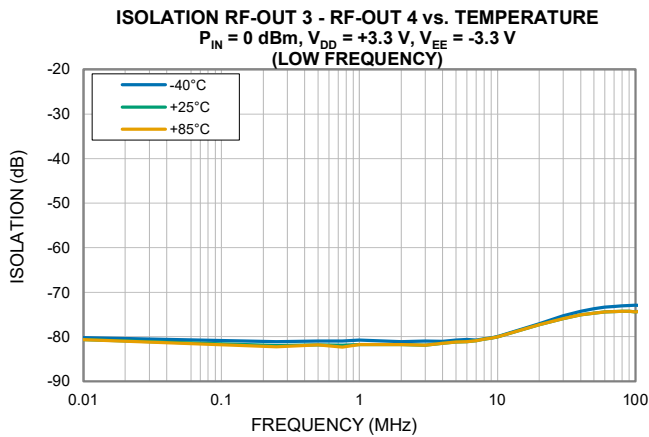
6. V<sub>EE</sub> is the negative equivalent value to V<sub>DD</sub>. Both V<sub>DD</sub> and V<sub>EE</sub> are varied.
7. RF-OUT defined as either RF-OUT 1 (OFF), RF-OUT 2 (OFF), RF-OUT 3 (OFF), or RF-OUT 4 (OFF)
8. RF-OUT defined as the worst of RFC to RF-OUT 1 (OFF), RF-OUT 2 (OFF), RF-OUT 3 (OFF), or RF-OUT 4 (OFF)

## Typical Performance Curves



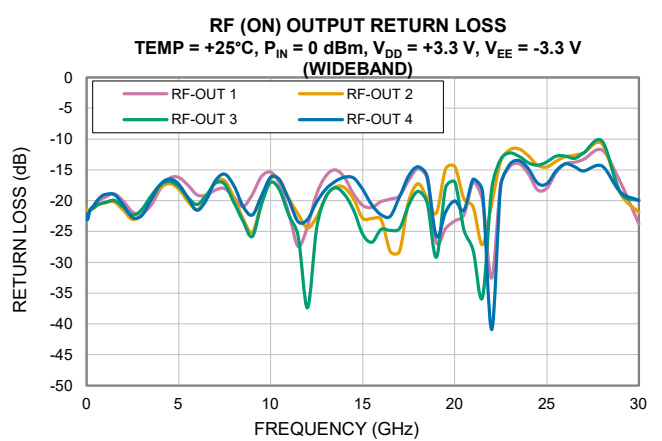
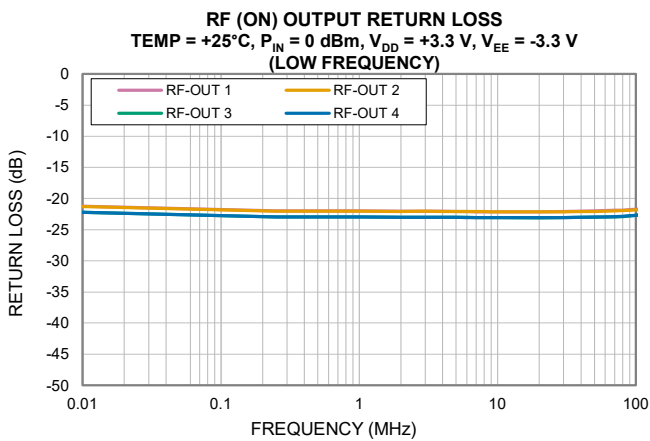
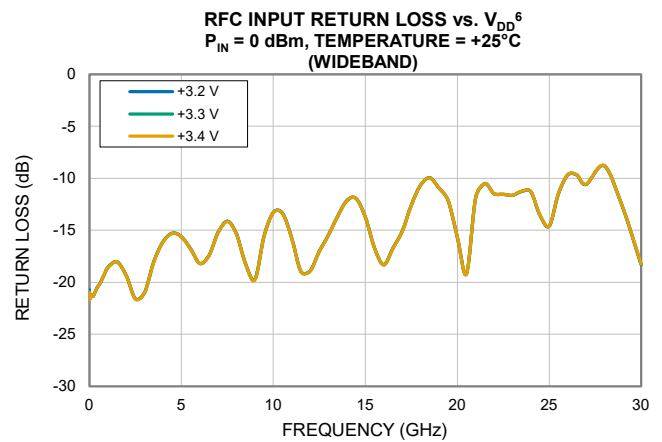
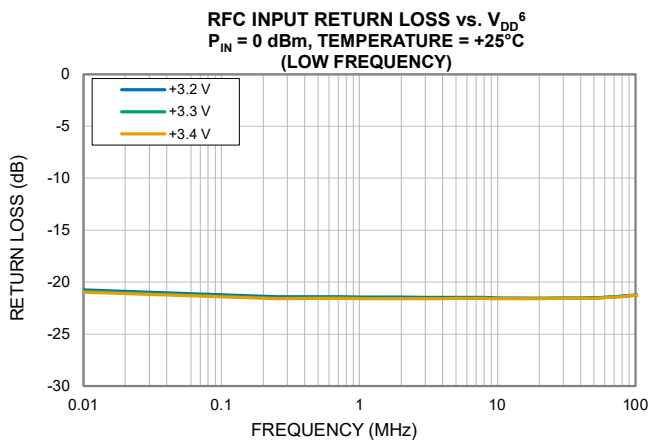
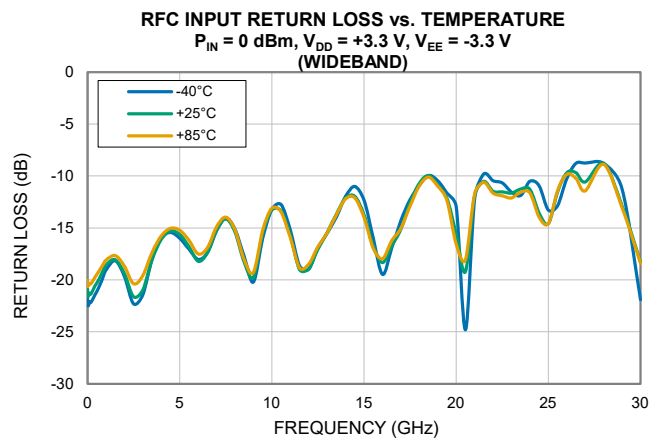
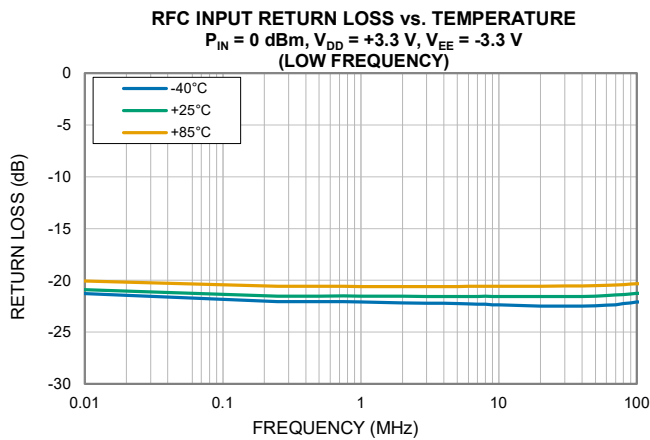
6. V<sub>EE</sub> is the negative equivalent value to V<sub>DD</sub>. Both V<sub>DD</sub> and V<sub>EE</sub> are varied.

Typical Performance Curves



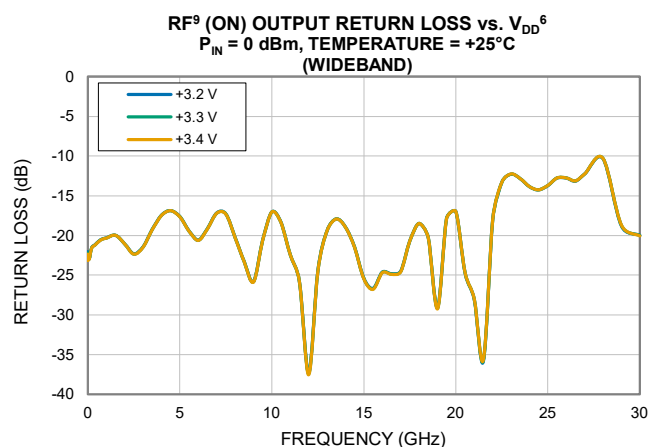
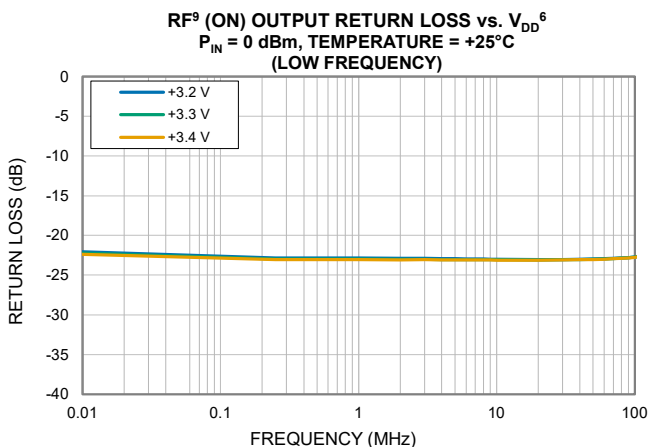
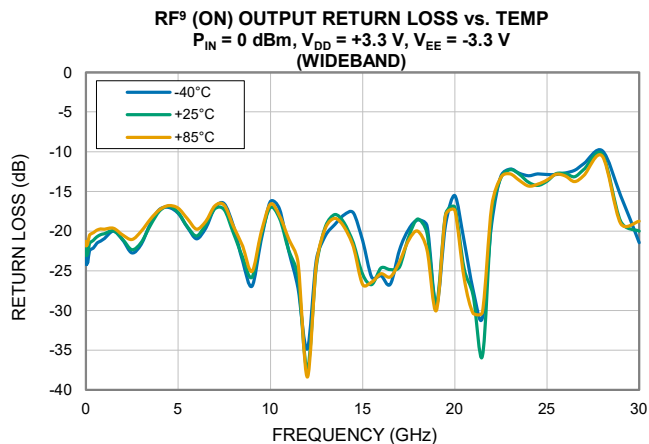
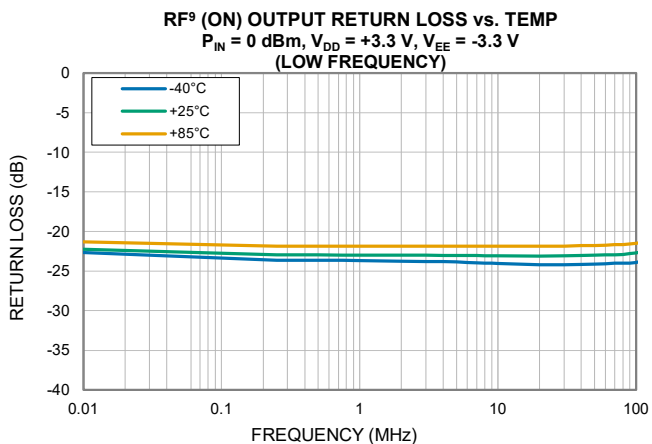
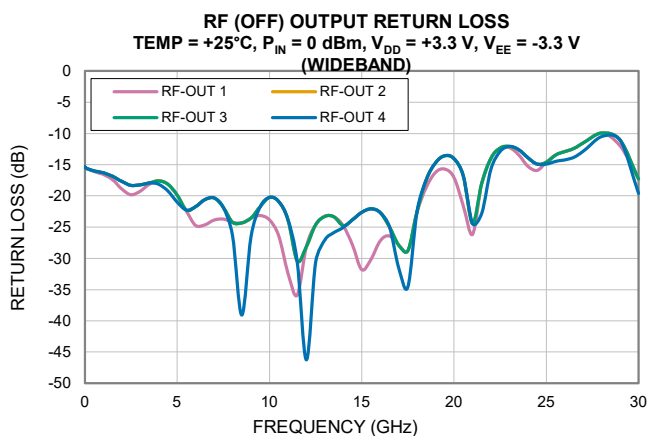
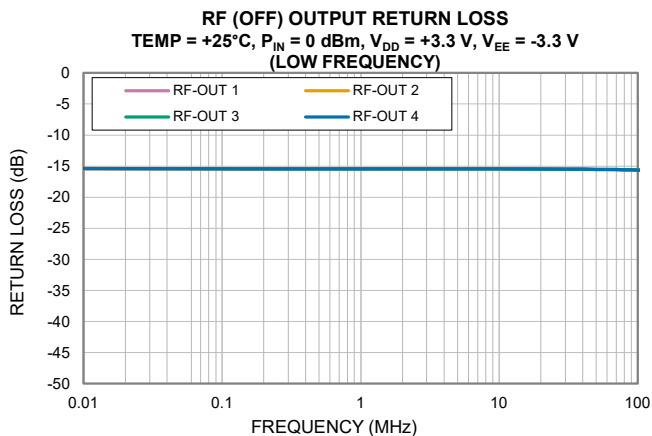
6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.

## Typical Performance Curves



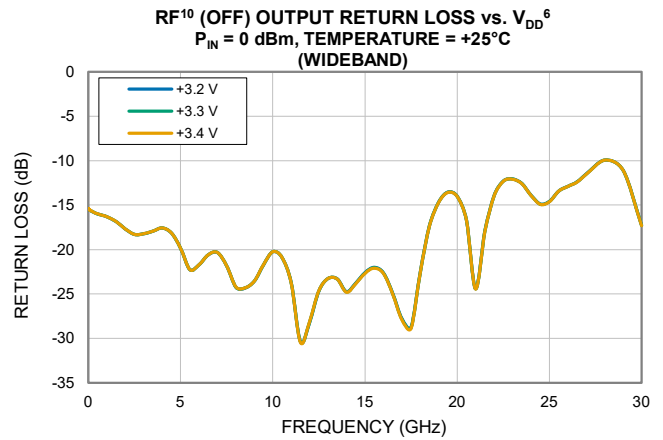
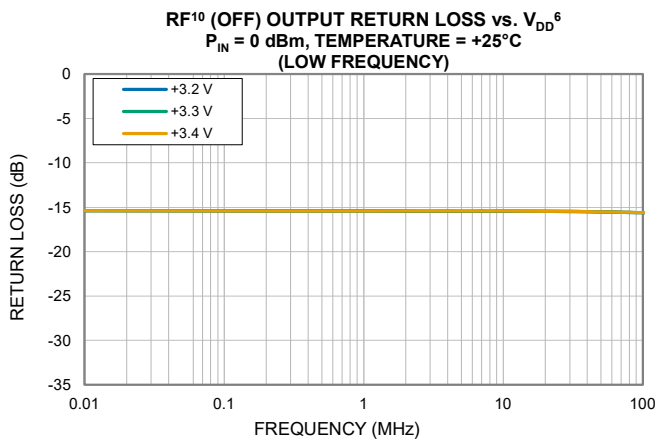
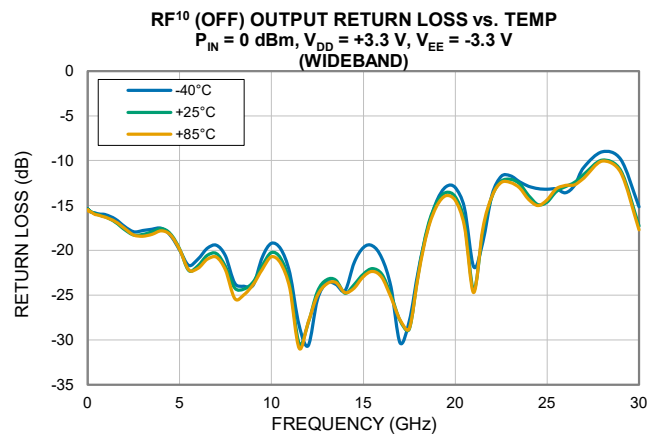
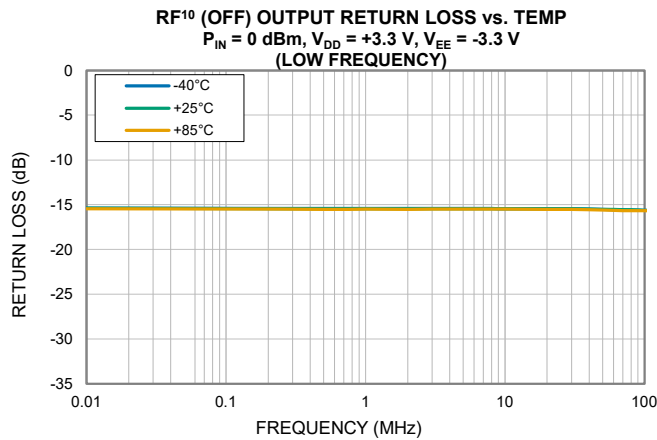
6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.

Typical Performance Curves



6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.  
 9. RF-OUT defined as the worst of RF-OUT 1 (ON), RF-OUT 2 (ON), RF-OUT 3 (ON), or RF-OUT 4 (ON)

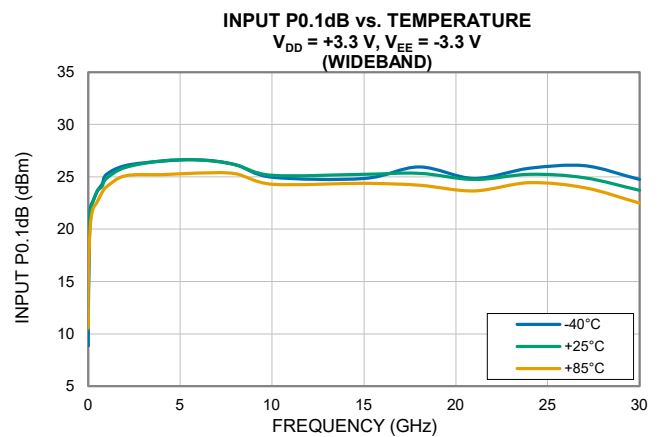
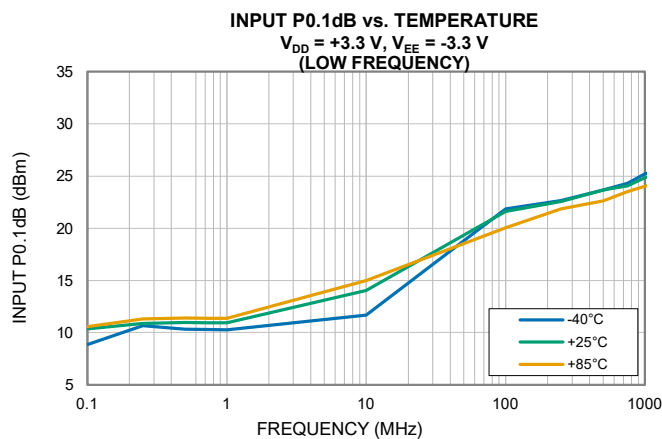
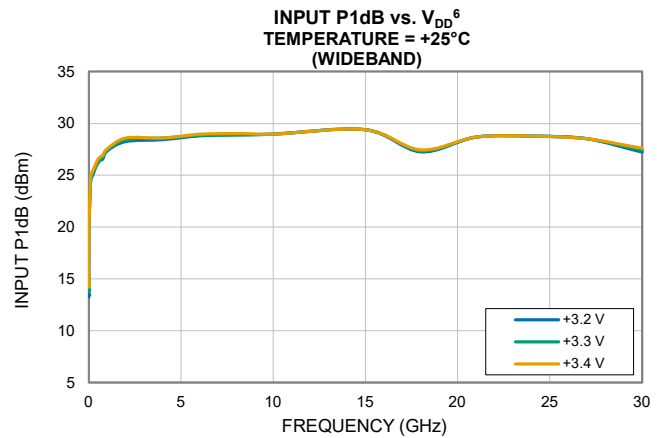
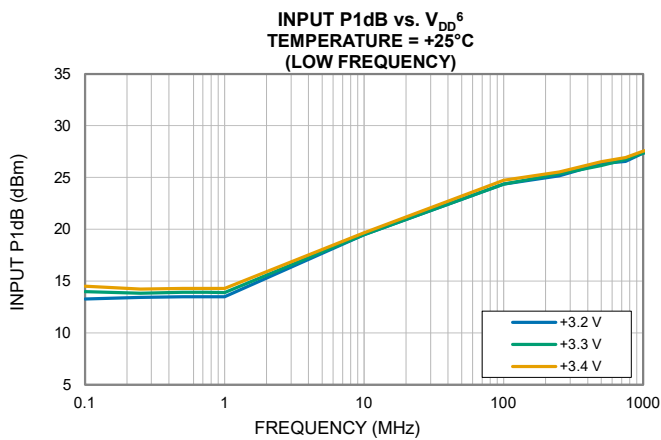
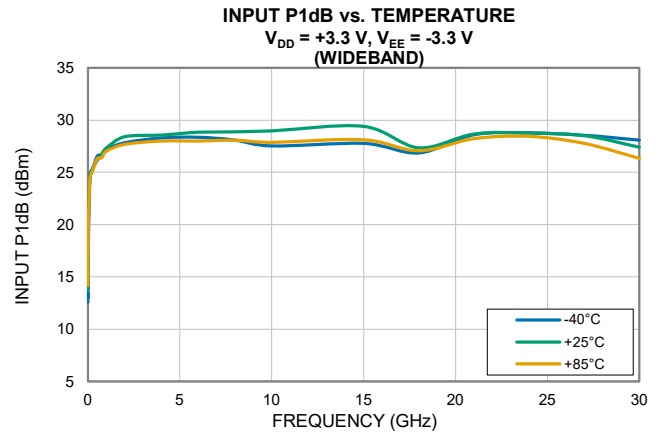
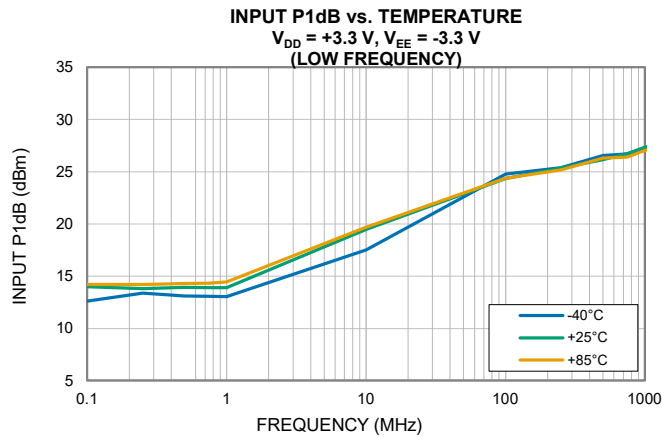
## Typical Performance Curves



6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.

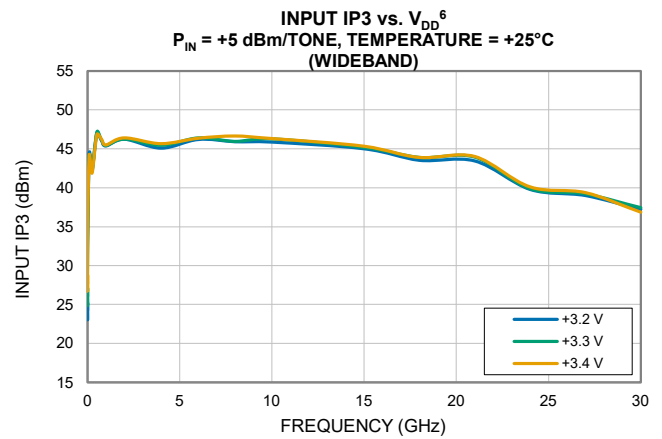
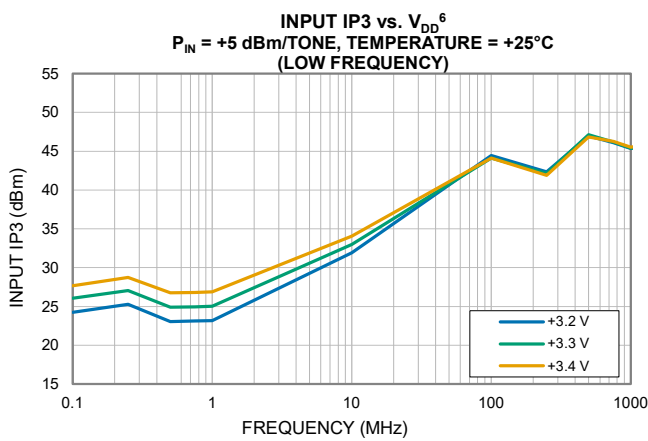
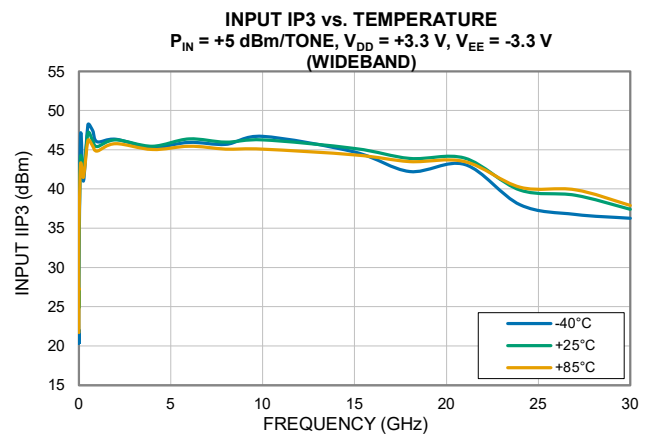
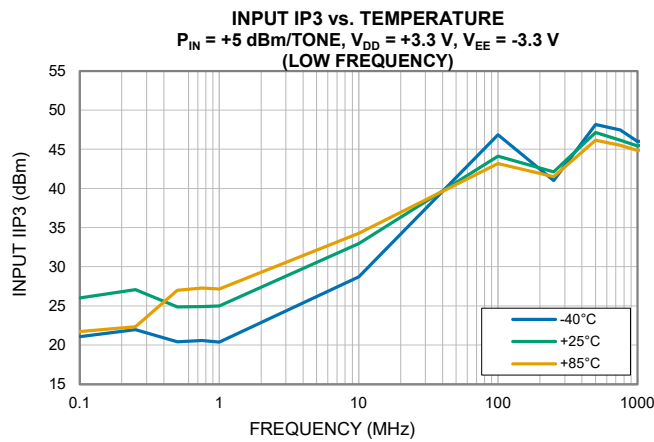
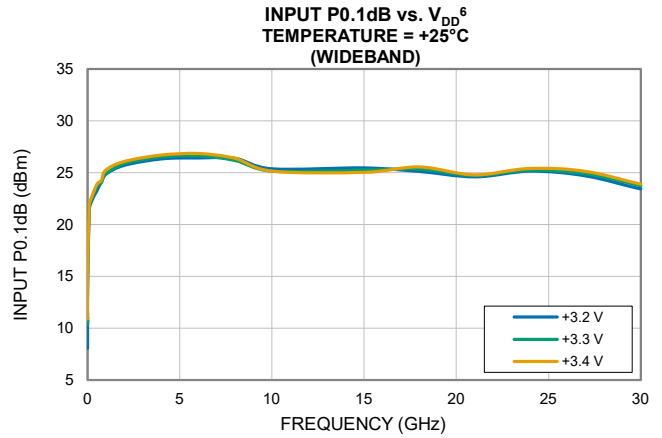
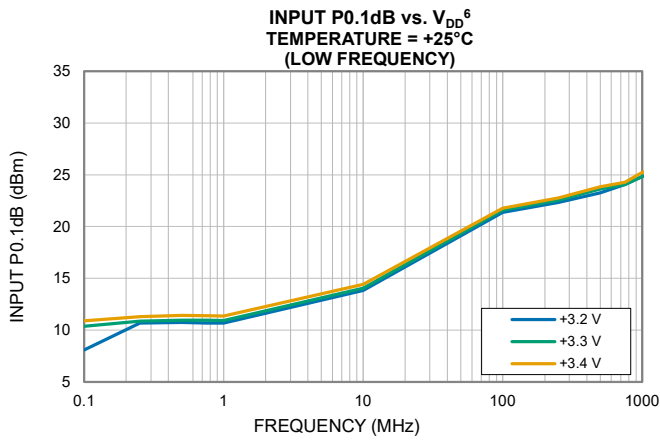
10. RF-OUT defined as the worst of RF-OUT 1 (OFF), RF-OUT 2 (OFF), RF-OUT 3 (OFF), or RF-OUT 4 (OFF)

## Typical Performance Curves



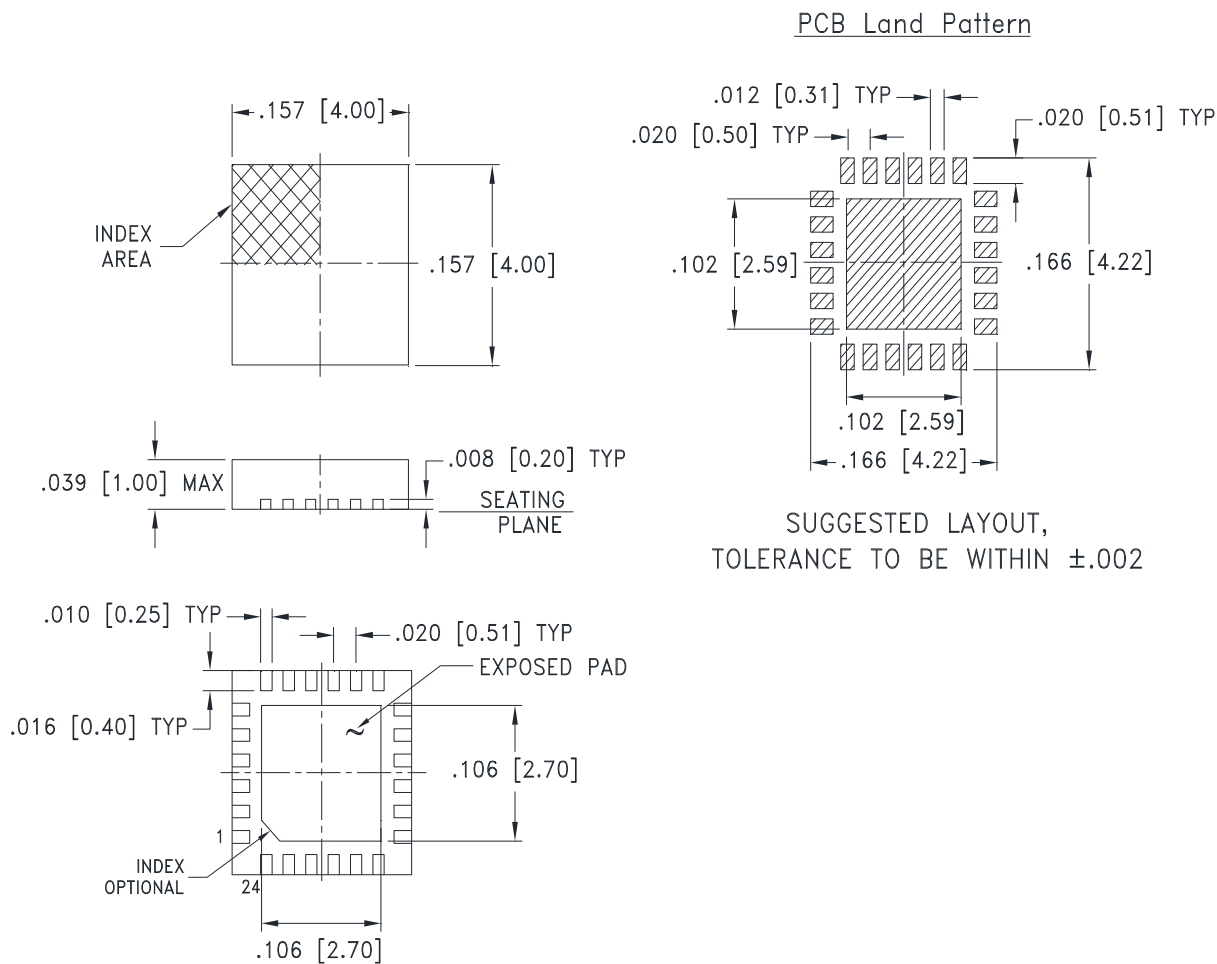
6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.

## Typical Performance Curves



6.  $V_{EE}$  is the negative equivalent value to  $V_{DD}$ . Both  $V_{DD}$  and  $V_{EE}$  are varied.

### Outline Dimensions



**Weight: .04 Grams**

**Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm .01$ ; 3 Pl.  $\pm .005$**

#### Notes:

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

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RF/IF MICROWAVE COMPONENTS

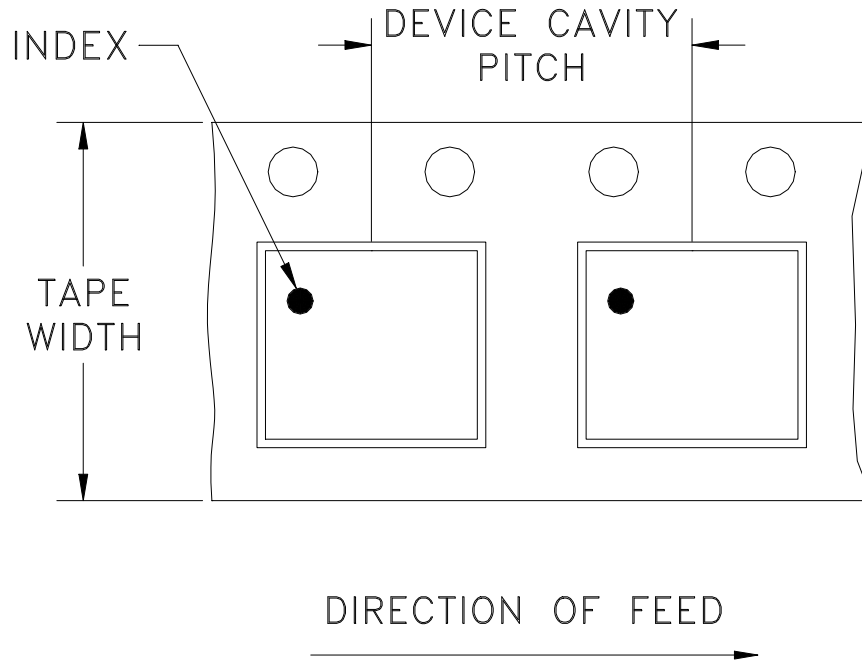
DG1847 Rev.: AJ (27 FEB 26) ECO-028636 File: DG1847

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Sheet 1 of 1

# Tape & Reel Packaging TR-F68

## DEVICE ORIENTATION IN T&R



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel see note	
12	8	7	Small quantity standard	20
				50
				100
				200
				500
		7	Standard	1000
		13	Standard	2000
				3000
4000				

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)



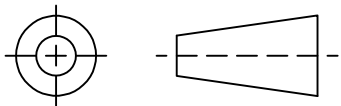
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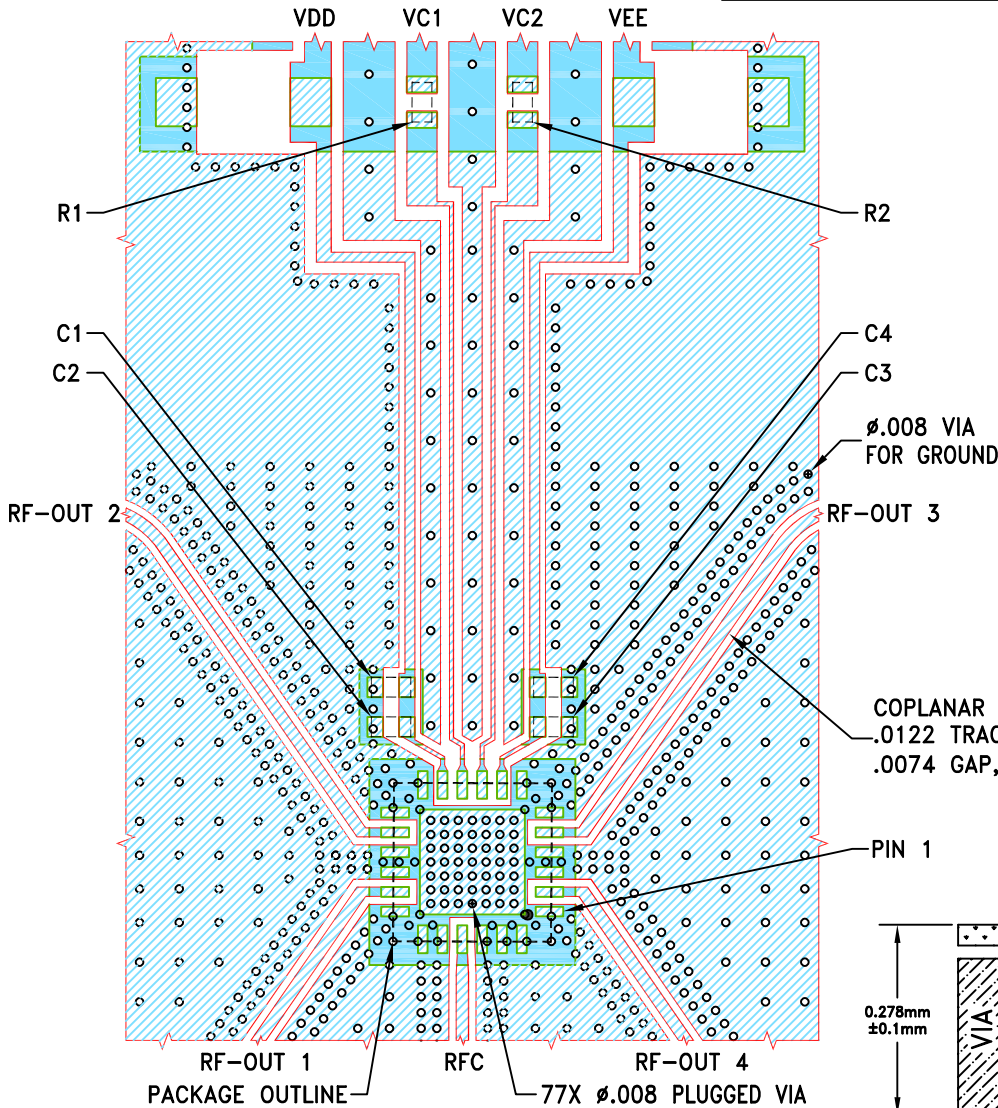
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	ECO-025876	NEW RELEASE	06/12/25	ITG	IL

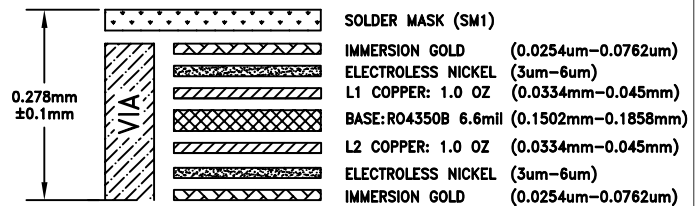
SUGGESTED MOUNTING CONFIGURATION FOR DG1847 CASE STYLE



COMPONENT	SIZE
C1-C4	0402
R1, R2	0402

COPLANAR WAVEGUIDE: .0122 TRACE WIDTH & .0074 GAP, 5 PL. (SEE NOTE 2)

2 LAYER STACK-UP DETAIL



NOTES:

1. PCB IS 2 LAYER PCB, SEE STACK-UP DIAGRAM.
2. TRACE WIDTH & GAP ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .0066". COPPER: 1 OZ. EACH LAYER. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
3. CHIP COMPONENT FOOT PRINTS SHOWN FOR REFERENCE, FOR COMPONENT VALUES REFER TO TB-M4SWA4+34DR+.
4. LAYERS 2 OF PCB ARE 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	ITG	06/12/25
TOLERANCES ON:	GF	06/12/25
2 PL DECIMALS ±	IL	06/12/25
3 PL DECIMALS ± .005		
ANGLES ±		
FRACTIONS ±		

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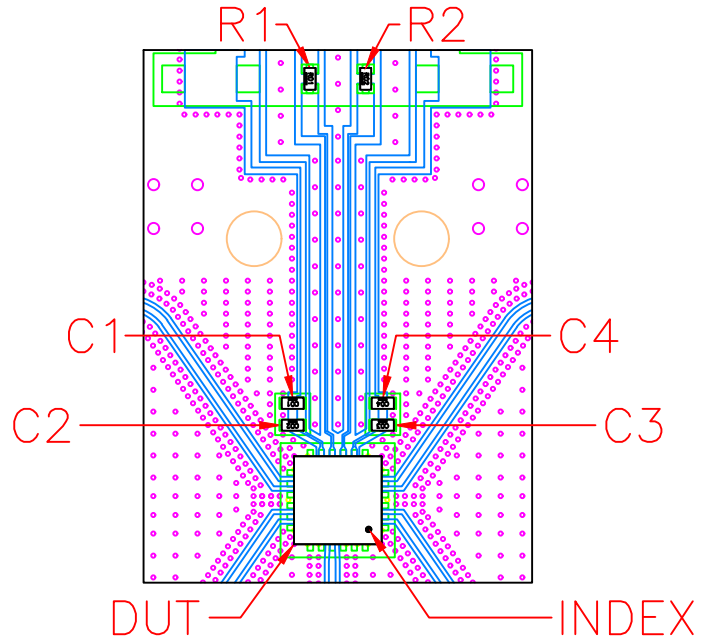
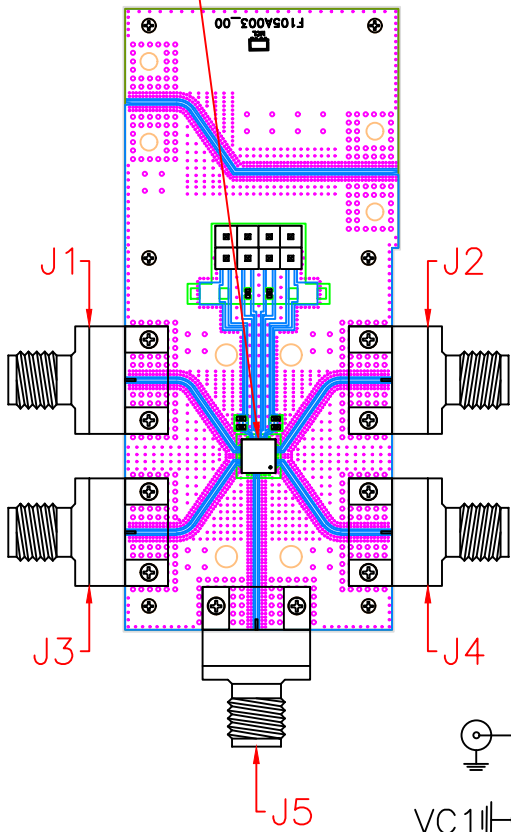
PL, DG1847, TB-M4SWA4+34DRC)+

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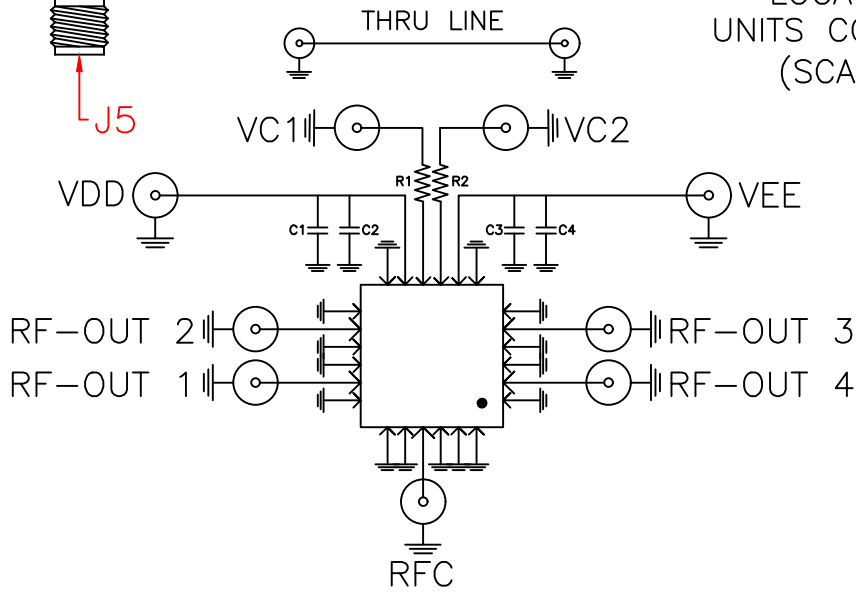
SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-830	OR
FILE:	98PL830	SCALE: 5:1	SHEET: 1 OF 1

# Evaluation Board and Circuit

SEE DETAIL "A"



DETAIL "A"  
LOCATION OF  
UNITS COMPONENTS  
(SCALE 2:1)



SCHEMATIC DIAGRAM

Component	Size	Value	Part Number	Manufacturer
C2,C3	0402	100pF	GRM1555C1H101JA01D	Murata
C1,C4	0402	0.1uF	GRM155R71C104KA88D	Murata
R1,R2	0402	1000hm	RK73H1ETTP1000F	KOA Speer
J1,J2,J3,J4,J5	N/A	N/A	1092-01A-5	Southwest

## Notes:

- 2.92mm Female Connectors.
- PCB Material: Roger R04350B or equivalent,  
Dielectric constant=3.5, Thickness=0.0066 inch

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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 or -55° to 105° C or -40° to 105° C or -40° to 95° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C or -65° to 150° Ambient Environment	Individual Model Data Sheet
HTOL	1000 hours at 125°C	MIL-STD-883, Method 1005, Condition B
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

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>
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215