

Wideband, Microwave, 0.5W

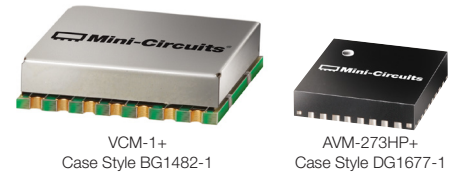
Monolithic Amplifier Subsystem

AVM-273HPK+

50Ω 13 to 26.5GHz

The Big Deal

- Wideband 13 to 26.5 GHz
- Output power up to +27 dBm
- Excellent directivity, 43 dB typ. @ 20 GHz
- Unconditionally stable
- Excellent gain flatness, ± 1 dB
- Sequencing and DC Control module included



Model
AVM-273HPK+
Kit Includes
VCM-1+
AVM-273HP+

Product Overview

Mini-Circuits' AVM-273HPK+ is a MMIC amplifier subsystem consisting of a MMIC amplifier and an auto-voltage sequencing module. The MMIC amplifier is designed using 0.15 μ m PHEMT technology and provides very wideband performance, medium power and unconditional stability. Furthermore, its outstanding isolation enables it to be used as a wideband isolation amplifier or buffer amplifier, making this an ideal amplifier for use in a variety of microwave systems including point-to-point radio, military EW and radar, DBS, and VSAT. The included voltage sequencing and DC control module enables plug-and-play operation without the need for external voltage sequencing circuits.

Key Features

Feature	Advantages
Wideband	Wide frequency coverage up to 26.5 GHz supports many microwave applications.
Pout up to +27 dBm	Can be used as a low-cost driver for high power amplifiers.
Excellent active directivity, 43 dB @ 20 GHz (directivity = isolation – gain)	Can be used as an inter-stage isolation amplifier, minimizing interaction of adjacent components.
Unconditionally stable	Eliminates the need for any compensating network to prevent unintended oscillation.
Small package	Small size for high power with low inductance, repeatable transitions, and excellent thermal contact to PCB.
Voltage Sequencing and DC Control Module included.	Provides correct voltage sequence and DC control, as well as reverse polarity protection, replacing over 20 discrete components and greatly simplifying circuit design.



Wideband, Microwave, 0.5W

Monolithic Amplifier Subsystem

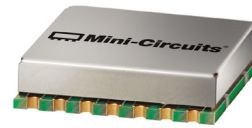
13-26.5 GHz

Product Features

- Gain, 13 dB typ.
- Output Power, up to +27 dBm typ.
- Excellent directivity, 43 dB typ. at 20 GHz
- Unconditionally Stable
- Aqueous washable; 5 mm x 5 mm SMT package
- DC Control and voltage sequencing module included

Typical Applications

- Point to Point Radio
- Military EW and Radar
- DBS
- VSAT
- Wideband Isolation amplifier



VCM-1+
Case Style BG1482-1



AVM-273HP+
Case Style DG1677-1

Model
AVM-273HPK+

Kit Includes
VCM-1+
AVM-273HP+

AVM-273HPK+

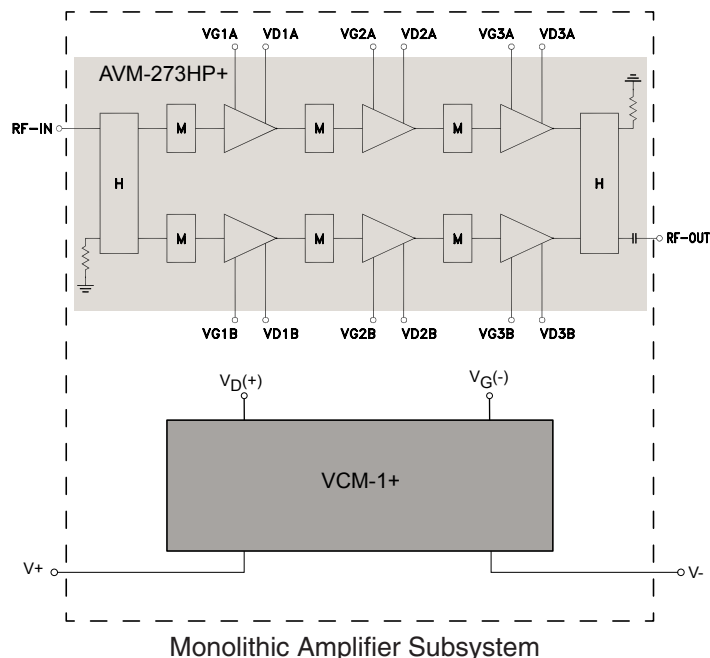
+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

General Description

Mini-Circuits' AVM-273HPK+ is a MMIC amplifier subsystem consisting of a MMIC amplifier and an auto-voltage sequencing module. The MMIC amplifier is designed using 0.15 μ m PHEMT technology and provides very wideband performance, medium power and unconditional stability. Furthermore, its outstanding isolation enables it to be used as a wideband isolation amplifier or buffer amplifier, making this an ideal amplifier for use in a variety of microwave systems including point-to-point radio, military EW and radar, DBS, and VSAT. The included voltage sequencing and DC control module enables plug-and-play operation without the need for external voltage sequencing circuits.

Simplified Schematic



Notes:

H - 90° Hybrid

M - Matching Network

VD and VG connections from VCM-1+ to AVM-273HP+ are required via application PCB; see Figure 1 for details.



Electrical Specifications ⁽¹⁾ at 25°C, Z_o=50Ω

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units.
Frequency Range		13.0		26.5	GHz
DC Voltage (V+)		+5.9	+6.0	+6.3	V
DC Voltage (V-)		-5.5	-5.0	-4.5	V
DC Current (I+)			559	590	mA
DC Current (I-)			0.5		mA
Gain	13.0	—	12.8	—	dB
	14.0	—	12.8	—	
	16.0	—	13.6	—	
	18.0	12.0	15.1	—	
	20.0	—	14.7	—	
	24.0	—	13.8	—	
Input Return Loss	26.5	—	13.2	—	dB
	13.0		16.9		
	14.0		17.1		
	16.0		17.0		
	17.0		19.4		
	20.0		8.9		
Output Return Loss	24.0		9.0		dB
	26.5		7.2		
	13.0		8.1		
	14.0		12.7		
	16.0		19.3		
	17.0		16.6		
Directivity (Isolation- Gain)	20.0		43		dB
	24.0		8.0		
	26.5		10.6		
	13.0		8.8		
	14.0		22.6		
	16.0		24.3		
Output Power @ 1 dB compression	17.0		26.3		dBm
	20.0		26.4		
	24.0		26.6		
	26.5		26.5		
	13.0		25.7		
	14.0		30.6		
OIP3	16.0		32.4		dBm
	17.0		33.2		
	20.0		31.0		
	24.0		29.7		
	26.4		29.5		
	13.0		9.8		
Noise Figure	14.0		9.6		dB
	16.0		8.9		
	17.0		8.8		
	20.0		8.5		
	24.0		7.5		
	26.5		8.5		
DC Current Variation vs. Temperature ⁽²⁾			0.32		mA/°C
DC Current Variation vs. Voltage			0.145		mA/mV
Thermal Resistance			16.3		°C/W

Notes:

1. Measured on Mini-Circuits Test Board TB-715-5V.
2. Output IP3 (OIP3): Two tones, spaced 1 MHz apart, 0 dBm/line at output.
3. V+ set to +6.1V to account for 1.1V drop in bias circuit resulting in +5V at drain (VD1 to VD3 (A&B))
4. (Current at 85°C - Current at -45°C)/130
5. Permanent damage may occur if any of these limits are exceeded. These maximum ratings are not intended for continuous normal operation.
6. Defined with reference to ground pad temperature.

Absolute Maximum Ratings⁽³⁾

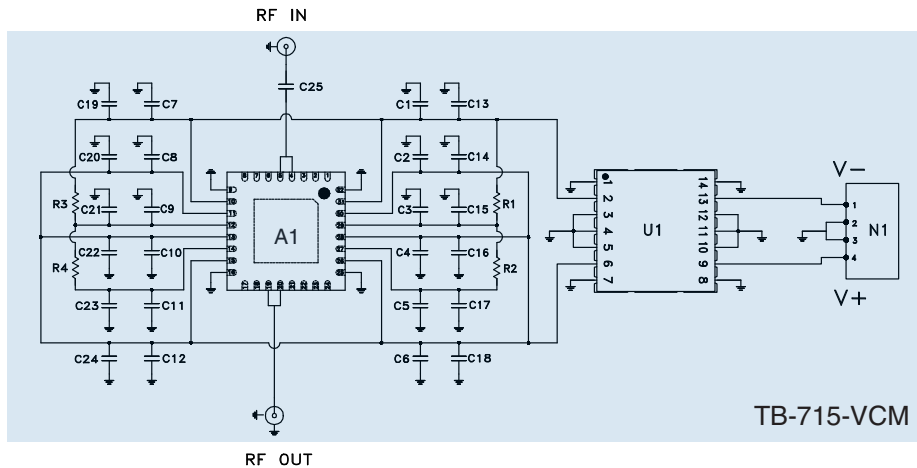
Operating Temperature ⁽⁴⁾	-40°C to 85°C
Storage Temperature	-65°C to 150°C
Channel Temperature	136°C
DC Voltage: V+	+7.4 V
DC Voltage: V-	-6 V
DC Current: V+	620mA
DC Current: V-	1mA
Power Dissipation	3.1 W
Input Power (CW)	16 dBm



NOTE: to prevent damage to the AVM-273HPK+, and to ensure proper operation, all bias voltages must be applied through the VCM-1+ module.

Bias Sequence and Conditions

Recommended Application Circuit



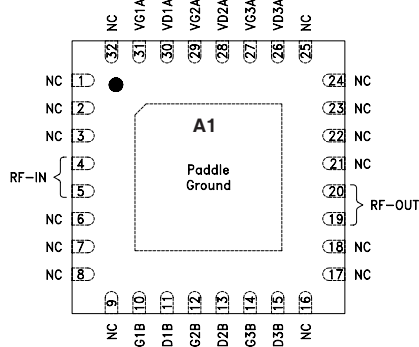
Component	Value/ Part Number	Size
A1	AVM-273HP+ (Supplied in Subsystem)	—
U1	VCM-1+ (Supplied in Subsystem)	—
N1	CONN VERTICAL HEADER 4 POS	—
C1,C6,C7, C12-C24	0.1 uF	.04 x .02
C2-C5, C8-C11	470 pF	.02 x .01
C25	0.1 uF	.04 x .02
R1-R4	0 Ohm	.08 x .05

Fig 1. Schematic of Test Board TB-715-VCM

VCM-1+ incorporates current stabilization, automatic voltage sequencing, reverse voltage protection circuitry.

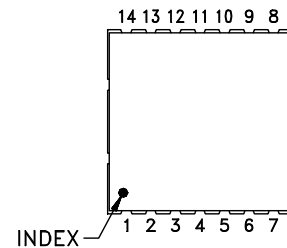
AVM-273HP+ Pad Description

Top View



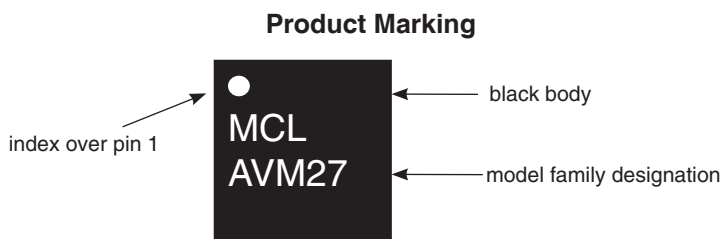
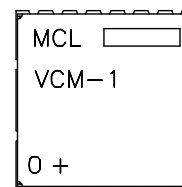
VCM-1+ Pad Description

Top View



Function	Pad Number	Description (See Application Circuit)
RF-In	4,5	RF Input
RF-Out	19,20	RF-Output (DC blocked)
VG1 A	31	Gate Voltage of first stage amplifier (Top)
VG2 A	29	Gate Voltage of second stage amplifier (Top)
VG3 A	27	Gate Voltage of third stage amplifier (Top)
VD1 A	30	Drain Voltage of first stage amplifier (Top)
VD2 A	28	Drain Voltage of second stage amplifier (Top)
VD3 A	26	Drain Voltage of third stage amplifier (Top)
VG1 B	10	Gate Voltage of first stage amplifier (Bottom)
VG2 B	12	Gate Voltage of second stage amplifier (Bottom)
VG3 B	14	Gate Voltage of third stage amplifier (Bottom)
VD1 B	11	Drain Voltage of first stage amplifier (Bottom)
VD2 B	13	Drain Voltage of second stage amplifier (Bottom)
VD3 B	15	Drain Voltage of third stage amplifier (Bottom)
NC	1-3, 6-9, 16-18, 21-25, 32	No Connection, not used internally

Function	Pad Number	Description
V- Out	2	Negative Output
V+ Out	6	Positive Output
V+ In	9	Positive Input
V- In	13	Negative Input
GND	1,3,4,5,7,8, 10,11,12,14	Ground

**Product Marking****Additional Detailed Technical Information**

additional information is available on our dash board.

Performance Data	Data Table
	Swept Graphs
	S-Parameter (S2P Files) Data Set (.zip file)
Case Style	AVM-273HP+ DG1677-1 (SOT 89) <i>Plastic package, exposed paddle, lead finish: tin-silver over nickel</i> VCM-1+ BG1482-1 (14 Pin) <i>Case material: Nickel-Silver Alloy</i> <i>Base: Printed wiring laminate</i>
Tape & Reel Standard quantities available on reel	13" reels with 10, 20, 50 devices
Suggested Layout for PCB Design	PL-448
Evaluation Board	TB-715-VCM

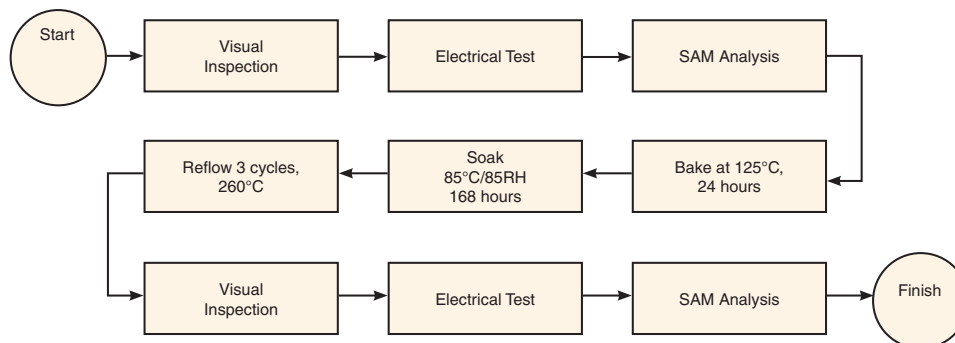
ESD Rating (AVM-273HP+)

Human Body Model (HBM): Class 1A in accordance with JESD22-A114F

Machine Model (MM): Class A (pass 25V) in accordance JESD22-A115

MSL Rating (AVM-273HP+)

Moisture Sensitivity: MSL1 in accordance with IPC/JEDEC J-STD-020D

MSL Test Flow Chart**Additional 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/MCLStore/terms.jsp



Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd* = 5.00V, Id = 559.85mA @ Temperature = +25°C

Note*: V+ = Vd + 1

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
12.0	12.72	54.58	16.01	4.69	39.78	0.68	26.79	17.44	10.15
12.2	13.07	53.16	16.04	5.11	34.00	0.71	27.98	18.33	10.11
12.4	13.30	53.67	16.02	5.63	36.90	0.75	27.51	18.98	10.10
12.6	13.36	51.77	16.04	6.20	30.90	0.78	29.19	19.59	9.93
12.8	13.44	52.13	16.15	6.77	33.20	0.81	29.36	20.06	9.90
13.0	13.43	52.70	16.37	7.45	36.87	0.84	30.39	20.81	9.88
13.2	13.45	52.68	17.13	8.33	38.35	0.87	30.96	21.30	9.85
13.4	13.45	54.41	17.41	9.12	48.15	0.89	30.88	21.76	9.77
13.6	13.45	55.25	16.76	9.97	54.19	0.92	32.02	21.86	9.73
13.8	13.46	55.07	17.11	11.09	54.37	0.94	32.10	22.33	9.58
14.0	13.49	55.69	17.22	12.26	59.41	0.96	32.72	22.52	9.60
14.5	13.71	56.28	17.75	15.69	64.30	0.99	33.26	23.84	9.32
15.0	13.98	59.89	18.49	19.48	96.14	1.00	33.42	24.49	9.32
15.5	14.40	58.48	18.33	23.62	78.44	1.01	34.04	24.81	9.11
16.0	14.75	61.96	18.27	30.02	112.85	1.01	34.12	25.31	8.79
17.0	15.22	58.52	20.64	23.55	72.13	1.00	34.29	25.44	8.60
17.5	15.35	70.47	26.11	16.52	278.30	0.98	33.86	24.91	8.74
18.0	15.90	62.60	27.86	15.17	104.70	0.97	33.65	26.32	8.60
18.5	15.98	55.90	19.29	13.23	46.67	0.96	33.15	25.76	8.33
19.0	15.59	54.22	15.10	14.72	39.94	1.00	32.52	25.70	8.33
19.5	15.91	60.12	11.85	15.49	73.76	1.03	32.44	25.81	8.31
20.0	15.76	60.57	10.28	14.34	75.97	1.05	32.31	25.86	8.61
20.5	15.11	61.80	8.26	15.09	88.97	1.11	32.16	25.86	8.88
21.0	14.67	63.20	7.61	14.54	106.42	1.13	31.47	25.86	8.91
21.5	14.29	61.82	7.00	14.32	91.82	1.15	31.16	25.86	8.96
22.0	14.11	60.36	6.96	12.62	77.66	1.13	30.85	25.35	8.80
22.5	13.95	61.27	6.81	11.78	85.89	1.13	31.27	25.49	8.49
23.0	14.02	59.64	7.28	11.91	72.64	1.11	31.83	25.63	8.28
23.5	14.07	53.01	7.82	11.95	34.52	1.09	31.05	25.56	8.04
24.0	14.58	50.66	9.55	11.74	26.35	1.04	30.89	24.97	7.71
24.5	15.05	45.23	11.31	13.16	14.19	1.02	30.78	25.24	7.17
25.0	15.28	42.81	12.05	13.37	10.71	1.01	30.46	24.50	7.08
25.4	14.74	39.99	13.79	11.77	8.26	0.96	31.25	25.06	6.81
25.6	14.36	41.38	14.44	11.63	10.14	0.96	30.61	25.21	6.82
25.8	14.23	41.70	15.79	11.37	10.74	0.95	31.01	24.91	6.96
26.0	14.05	40.65	15.13	10.65	9.54	0.93	31.18	24.45	6.87
26.2	14.13	42.25	14.93	10.83	11.37	0.94	31.35	24.61	6.89
26.4	14.30	40.80	12.65	10.43	9.17	0.95	31.15	24.16	7.27
26.5	14.26	41.20	11.39	10.28	9.43	0.96	31.11	24.16	7.14

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd* = 4.75V, Id = 525.06mA @ Temperature = +25°C

Note*: V+ = Vd + 1

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
12.0	12.95	54.72	16.04	4.71	39.46	0.68	27.34	16.77	10.06
12.2	13.31	53.16	16.08	5.14	33.18	0.71	28.50	17.67	9.97
12.4	13.54	53.78	16.03	5.64	36.40	0.75	28.04	18.33	9.95
12.6	13.61	52.08	16.01	6.19	31.08	0.78	29.86	18.98	9.88
12.8	13.67	52.27	16.13	6.77	32.80	0.81	29.96	19.44	9.80
13.0	13.66	53.01	16.40	7.44	37.22	0.84	30.97	20.21	9.80
13.2	13.68	53.28	17.16	8.31	40.01	0.87	31.66	20.70	9.77
13.4	13.67	54.58	17.45	9.09	47.89	0.89	31.64	21.18	9.66
13.6	13.65	55.69	16.77	9.92	55.62	0.92	32.84	21.25	9.61
13.8	13.66	55.23	17.17	11.05	54.19	0.94	32.72	21.76	9.44
14.0	13.68	55.70	17.29	12.19	58.19	0.96	33.57	21.93	9.41
14.5	13.88	56.05	17.71	15.57	61.38	0.99	34.01	23.28	9.29
15.0	14.15	58.42	18.45	19.25	79.65	1.00	34.21	23.89	9.16
15.5	14.52	58.98	18.27	23.52	81.87	1.01	34.62	24.19	8.98
16.0	14.87	60.85	18.35	29.92	97.97	1.01	34.44	24.67	8.72
17.0	15.28	56.04	20.65	23.90	53.88	1.00	33.95	24.83	8.53
17.5	15.41	71.69	26.07	16.56	317.65	0.98	34.46	24.22	8.59
18.0	15.93	63.91	27.77	15.30	121.33	0.97	34.02	25.67	8.42
18.5	16.00	56.25	19.30	13.31	48.49	0.96	33.32	25.15	8.18
19.0	15.58	54.83	15.16	14.88	42.98	1.00	32.94	24.93	8.23
19.5	15.88	58.95	11.85	15.53	64.71	1.03	32.50	25.03	8.20
20.0	15.72	61.61	10.24	14.25	85.80	1.05	32.78	25.15	8.51
20.5	15.05	61.19	8.29	14.88	83.45	1.11	32.14	25.17	8.64
21.0	14.61	63.14	7.64	14.37	106.45	1.13	31.57	25.14	8.74
21.5	14.24	60.93	7.03	14.15	83.38	1.15	31.57	25.02	8.74
22.0	14.09	61.29	6.99	12.64	86.76	1.13	31.24	24.43	8.62
22.5	13.94	61.25	6.83	11.84	86.00	1.13	31.84	24.63	8.31
23.0	14.01	58.50	7.24	11.96	63.66	1.11	32.13	24.83	8.10
23.5	14.07	52.89	7.85	12.06	34.17	1.09	31.40	24.80	7.86
24.0	14.58	51.08	9.53	11.87	27.69	1.04	31.60	24.20	7.51
24.5	15.09	45.28	11.38	13.21	14.24	1.02	30.86	24.47	7.13
25.0	15.34	42.96	12.08	13.41	10.82	1.01	30.74	23.72	6.95
25.4	14.95	39.89	13.86	12.16	8.03	0.97	31.50	24.31	6.73
25.6	14.44	41.92	14.62	11.73	10.72	0.96	31.15	24.48	6.73
25.8	14.35	41.98	15.93	11.56	10.97	0.95	31.50	24.17	6.85
26.0	14.02	40.49	14.83	10.62	9.38	0.94	31.65	23.74	6.84
26.2	14.29	42.84	15.23	10.99	12.01	0.94	31.83	23.87	6.89
26.4	14.24	40.83	12.57	10.40	9.25	0.95	31.72	23.44	7.12
26.5	14.27	41.06	11.53	10.29	9.30	0.96	31.35	23.41	7.09

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: $V_d^* = 5.25V$, $I_d = 597.91mA$ @ Temperature = +25°C

Note*: $V_+ = V_d + 1$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
12.0	12.29	54.45	16.02	4.70	41.24	0.68	26.53	18.03	10.35
12.2	12.64	52.83	16.11	5.14	34.50	0.71	27.70	18.93	10.18
12.4	12.87	54.08	16.13	5.67	40.85	0.75	27.25	19.57	10.21
12.6	12.94	51.83	16.06	6.21	32.66	0.78	28.94	20.18	10.10
12.8	13.02	52.35	16.22	6.82	35.82	0.81	29.05	20.63	10.05
13.0	13.02	53.17	16.44	7.50	40.91	0.84	30.02	21.36	10.08
13.2	13.05	53.61	17.17	8.38	44.78	0.87	30.58	21.83	9.99
13.4	13.05	54.34	17.49	9.21	50.17	0.89	30.56	22.30	9.96
13.6	13.05	55.47	16.79	10.06	58.31	0.92	31.65	22.36	9.87
13.8	13.09	55.61	17.23	11.20	60.61	0.94	31.47	22.85	9.68
14.0	13.13	55.25	17.29	12.37	59.01	0.96	32.39	23.00	9.72
14.5	13.35	56.26	17.82	15.85	66.89	0.99	32.91	24.32	9.61
15.0	13.68	58.12	18.38	19.55	81.23	1.00	33.10	25.00	9.37
15.5	14.09	59.30	18.22	23.89	89.35	1.01	33.62	25.33	9.26
16.0	14.49	61.06	18.27	30.53	104.76	1.01	33.99	25.85	9.02
17.0	14.97	55.64	20.76	23.74	53.34	1.00	33.38	26.07	8.84
17.5	15.11	72.23	26.01	16.17	349.53	0.98	33.40	25.58	8.86
18.0	15.66	63.79	27.67	15.04	123.23	0.97	33.42	26.99	8.74
18.5	15.76	55.70	19.18	12.98	46.61	0.96	33.19	26.48	8.48
19.0	15.36	55.02	15.08	14.50	44.90	0.99	32.26	26.36	8.56
19.5	15.73	57.48	11.82	15.28	55.47	1.03	32.19	26.42	8.55
20.0	15.59	59.98	10.20	14.35	72.20	1.06	32.21	26.49	8.86
20.5	14.96	60.48	8.31	15.31	78.05	1.11	31.64	26.54	9.04
21.0	14.52	64.68	7.68	14.88	129.16	1.13	31.35	26.62	9.16
21.5	14.12	60.89	7.06	14.57	84.56	1.15	31.09	26.62	9.20
22.0	13.94	61.18	7.02	12.72	87.42	1.13	30.74	26.20	9.07
22.5	13.73	59.71	6.85	11.84	73.79	1.13	31.24	26.25	8.65
23.0	13.78	59.51	7.26	11.90	73.47	1.11	31.53	26.33	8.44
23.5	13.80	53.50	7.85	11.90	37.74	1.09	30.88	26.26	8.21
24.0	14.26	50.91	9.51	11.70	28.05	1.04	30.51	25.63	7.82
24.5	14.73	45.30	11.30	12.95	14.82	1.02	30.29	25.89	7.25
25.0	14.89	42.67	11.77	12.90	10.92	1.01	30.04	25.12	7.29
25.4	14.51	40.43	14.02	12.03	8.97	0.97	30.82	25.73	6.98
25.6	14.02	41.96	14.67	11.62	11.28	0.96	30.28	25.84	7.08
25.8	13.98	42.60	16.19	11.56	12.30	0.95	30.62	25.56	7.09
26.0	13.66	40.50	15.15	10.52	9.78	0.93	30.82	25.08	7.21
26.2	13.98	43.61	15.52	11.03	13.62	0.94	30.92	25.27	7.11
26.4	13.90	41.05	12.78	10.53	9.92	0.95	30.88	24.79	7.38
26.5	13.92	41.08	11.62	10.24	9.71	0.96	30.56	24.81	7.38

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd* = 5.00V, Id = 537.02mA @ Temperature = -45°C

Note*: V+ = Vd + 1

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
12.0	13.93	54.49	14.43	4.05	31.07	0.63	25.29	17.40	9.20
12.2	14.33	53.23	14.08	4.37	26.75	0.66	26.41	18.27	8.79
12.4	14.57	53.54	14.01	4.82	28.52	0.70	25.87	18.87	8.60
12.6	14.67	54.56	13.64	5.27	33.23	0.73	27.78	19.45	8.94
12.8	14.78	52.94	14.46	5.93	29.06	0.77	27.50	20.02	8.78
13.0	14.78	52.91	13.77	6.53	30.13	0.81	28.84	20.69	8.63
13.2	14.86	53.10	15.31	7.67	32.91	0.85	29.14	21.33	8.78
13.4	14.84	54.65	15.35	8.32	40.58	0.88	29.38	21.71	8.53
13.6	14.86	55.32	15.16	9.73	45.69	0.92	30.38	21.84	8.51
13.8	14.90	54.45	15.96	11.18	42.76	0.95	30.45	22.23	8.56
14.0	14.92	54.87	15.43	12.80	45.72	0.97	31.36	22.48	8.31
14.5	15.13	56.32	16.83	18.25	55.34	1.01	32.42	23.85	8.47
15.0	15.36	58.92	18.12	19.63	73.40	1.00	32.98	24.77	8.13
15.5	15.75	57.42	19.44	20.74	59.41	1.00	33.98	25.09	7.87
16.0	16.06	59.14	19.80	21.63	70.02	1.00	34.58	25.59	7.66
17.0	16.60	58.34	20.27	19.99	59.89	1.00	34.64	25.73	7.74
17.5	16.68	69.03	20.10	16.04	200.25	0.98	34.33	25.21	7.47
18.0	17.49	62.08	20.69	15.98	81.93	0.98	34.61	26.81	7.33
18.5	17.77	55.60	20.61	14.19	37.15	0.97	34.35	26.25	7.18
19.0	17.48	52.90	14.01	15.53	27.50	1.01	33.58	26.47	7.24
19.5	17.81	59.47	11.47	15.54	54.67	1.04	33.18	26.66	7.51
20.0	17.80	56.19	8.34	12.34	33.44	1.08	33.21	26.68	7.79
20.5	17.06	58.97	6.75	11.84	45.82	1.13	33.09	26.45	7.40
21.0	16.43	59.85	5.55	10.64	48.79	1.17	32.39	26.48	7.41
21.5	16.07	61.60	5.30	11.70	62.24	1.21	31.74	26.72	7.41
22.0	16.03	61.31	5.66	10.28	60.73	1.15	31.16	26.48	7.50
22.5	16.07	58.55	6.62	9.94	46.80	1.09	31.54	26.49	7.22
23.0	16.26	62.46	7.25	10.84	76.01	1.09	31.84	26.39	7.22
23.5	16.32	53.20	8.46	11.85	27.93	1.07	30.87	26.18	6.91
24.0	16.75	49.07	8.81	11.83	16.70	1.06	30.59	25.74	6.58
24.5	17.32	44.07	10.92	13.80	9.55	1.04	30.04	25.98	6.36
25.0	17.88	40.77	10.85	14.75	6.24	1.04	29.42	25.29	6.01
25.4	17.15	40.23	11.34	10.76	6.17	0.97	30.20	25.75	5.66
25.6	16.65	40.65	11.67	10.43	6.83	0.96	29.96	25.97	5.73
25.8	16.38	40.97	12.60	9.44	7.21	0.92	30.50	25.55	5.53
26.0	16.18	40.62	14.02	9.16	7.13	0.90	30.35	25.13	5.84
26.2	16.22	42.73	13.60	9.19	8.99	0.91	30.98	25.28	5.96
26.4	16.27	40.29	13.16	8.91	6.69	0.90	30.73	25.00	5.79
26.5	16.28	40.35	11.64	8.72	6.55	0.91	30.53	24.95	5.68

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: $V_d^* = 4.75V$, $I_d = 501.98mA$ @ Temperature = $-45^{\circ}C$

Note*: $V_+ = V_d + 1$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
12.0	13.90	54.97	14.47	4.05	32.96	0.63	25.19	16.76	8.91
12.2	14.31	53.59	14.13	4.37	27.95	0.66	26.29	17.63	8.80
12.4	14.54	53.48	14.01	4.82	28.41	0.70	25.76	18.22	8.73
12.6	14.65	54.48	13.68	5.27	33.00	0.73	27.70	18.84	8.66
12.8	14.77	53.06	14.45	5.92	29.50	0.77	27.39	19.37	8.63
13.0	14.75	52.97	13.76	6.51	30.37	0.81	28.75	20.05	8.61
13.2	14.83	53.03	15.41	7.65	32.79	0.85	29.00	20.72	8.48
13.4	14.81	54.68	15.32	8.30	40.80	0.88	29.32	21.10	8.43
13.6	14.83	55.14	15.11	9.71	44.92	0.92	30.37	21.18	8.42
13.8	14.85	54.27	15.98	11.16	42.11	0.95	30.46	21.60	8.27
14.0	14.88	55.01	15.36	12.76	46.68	0.97	31.43	21.86	8.24
14.5	15.08	56.32	16.81	18.20	55.58	1.01	32.40	23.25	8.13
15.0	15.29	59.19	18.11	19.59	76.25	1.00	33.06	24.22	7.92
15.5	15.67	57.89	19.31	20.71	63.27	1.00	33.97	24.55	7.85
16.0	16.00	59.15	19.86	21.57	70.63	1.00	34.38	25.03	7.57
17.0	16.54	57.57	20.27	20.11	55.22	1.00	34.93	25.13	7.37
17.5	16.62	70.00	20.13	16.05	225.35	0.98	34.36	24.63	7.43
18.0	17.43	62.50	20.63	16.01	86.59	0.98	34.65	26.26	7.29
18.5	17.71	55.67	20.58	14.19	37.74	0.97	34.68	25.72	7.12
19.0	17.41	53.09	14.07	15.61	28.39	1.01	33.31	25.81	6.91
19.5	17.73	60.57	11.48	15.50	62.56	1.04	33.48	26.05	7.08
20.0	17.73	59.46	8.34	12.41	49.18	1.08	33.23	26.14	7.36
20.5	16.98	60.14	6.73	11.78	52.76	1.13	33.03	25.94	7.21
21.0	16.36	61.01	5.55	10.56	56.14	1.17	32.08	25.95	7.40
21.5	16.00	62.53	5.30	11.59	69.72	1.20	31.60	26.12	7.38
22.0	15.98	62.91	5.68	10.32	73.66	1.15	31.12	25.82	7.32
22.5	16.04	60.43	6.64	10.03	58.55	1.10	31.52	25.81	6.92
23.0	16.21	61.24	7.21	10.91	66.40	1.09	31.68	25.77	6.94
23.5	16.28	53.71	8.45	11.82	29.72	1.07	30.80	25.52	6.75
24.0	16.71	50.52	8.82	11.91	19.86	1.06	30.59	25.14	6.57
24.5	17.28	44.24	10.95	13.71	9.78	1.04	29.97	25.36	6.14
25.0	17.85	40.93	10.91	14.78	6.39	1.04	29.47	24.70	5.79
25.4	17.12	39.95	11.25	10.80	5.98	0.97	30.16	25.18	5.38
25.6	16.61	40.37	11.67	10.39	6.64	0.96	29.93	25.41	5.45
25.8	16.31	40.95	12.49	9.47	7.25	0.92	30.38	24.98	5.48
26.0	16.15	40.48	13.96	9.15	7.03	0.90	30.43	24.57	5.43
26.2	16.20	42.63	13.68	9.21	8.92	0.91	30.92	24.66	5.68
26.4	16.23	40.63	13.22	8.98	7.00	0.90	30.80	24.44	5.63
26.5	16.24	40.50	11.77	8.77	6.72	0.91	30.43	24.36	5.62

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd* = 5.25V, Id = 575.09mA @ Temperature = -45°C

Note*: V+ = Vd + 1

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
12.0	13.81	55.08	14.43	4.06	33.80	0.63	25.48	17.97	9.12
12.2	14.21	53.68	14.10	4.38	28.63	0.66	26.58	18.84	9.01
12.4	14.44	53.14	13.98	4.83	27.68	0.70	26.05	19.45	8.91
12.6	14.55	54.39	13.67	5.29	33.14	0.73	27.93	20.06	8.84
12.8	14.67	53.06	14.43	5.95	29.89	0.77	27.68	20.57	8.83
13.0	14.66	52.79	13.72	6.55	30.12	0.81	28.97	21.29	8.83
13.2	14.75	53.06	15.41	7.71	33.29	0.85	29.22	21.92	8.78
13.4	14.74	54.53	15.34	8.37	40.53	0.88	29.46	22.30	8.71
13.6	14.77	55.34	15.14	9.80	46.37	0.92	30.41	22.39	8.63
13.8	14.81	54.09	15.96	11.27	41.49	0.95	30.50	22.82	8.53
14.0	14.84	54.98	15.40	12.88	46.78	0.98	31.39	23.07	8.47
14.5	15.05	55.82	16.80	18.41	52.72	1.01	32.40	24.38	8.39
15.0	15.29	59.02	18.09	19.77	74.80	1.00	32.85	25.27	8.20
15.5	15.69	58.04	19.32	20.86	64.26	1.00	33.74	25.61	8.01
16.0	16.01	59.22	19.71	21.69	71.10	1.00	33.97	26.11	7.79
17.0	16.56	56.72	20.26	20.22	49.97	1.00	34.45	26.32	7.66
17.5	16.61	83.43	20.12	15.89	1057.33	0.98	34.11	25.85	7.65
18.0	17.43	61.85	20.76	15.89	80.30	0.98	34.68	27.41	7.51
18.5	17.71	55.80	20.31	14.07	38.23	0.97	34.38	26.84	7.33
19.0	17.42	53.29	14.08	15.44	28.99	1.01	33.10	27.01	7.17
19.5	17.74	59.64	11.52	15.39	56.18	1.04	32.80	27.19	7.37
20.0	17.74	57.73	8.37	12.34	40.28	1.08	33.11	27.22	7.61
20.5	16.98	59.10	6.71	11.81	46.80	1.13	32.74	27.06	7.53
21.0	16.34	60.67	5.55	10.67	54.24	1.17	32.09	27.16	7.68
21.5	15.98	61.42	5.31	11.75	61.71	1.21	31.61	27.38	7.71
22.0	15.94	59.19	5.68	10.23	48.13	1.15	31.17	27.22	7.63
22.5	15.99	59.11	6.66	9.96	50.56	1.09	31.34	27.11	7.26
23.0	16.15	63.12	7.24	10.86	83.05	1.09	31.69	26.93	7.21
23.5	16.21	53.02	8.51	11.78	27.73	1.07	30.73	26.67	7.00
24.0	16.64	49.54	8.82	11.82	17.87	1.06	30.65	26.29	6.66
24.5	17.19	44.02	10.88	13.76	9.63	1.04	30.09	26.51	6.11
25.0	17.71	40.98	10.85	14.51	6.51	1.04	29.49	25.84	6.05
25.4	16.95	39.52	11.17	10.55	5.78	0.96	30.27	26.31	5.68
25.6	16.48	40.62	11.69	10.42	6.93	0.96	30.02	26.51	5.70
25.8	16.12	40.73	12.39	9.30	7.18	0.92	30.37	26.10	5.76
26.0	15.97	40.09	13.78	9.01	6.84	0.90	30.40	25.67	5.77
26.2	16.10	42.73	13.66	9.20	9.12	0.91	30.77	25.76	5.85
26.4	16.15	40.89	13.20	9.01	7.28	0.91	30.75	25.52	5.96
26.5	16.26	41.54	11.97	9.00	7.62	0.92	30.28	25.46	5.91

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd* = 5.00V, Id = 576.92mA @ Temperature = +85°C

Note*: V+ = Vd + 1

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
12.0	11.45	55.58	17.26	5.08	54.36	0.70	27.89	17.76	11.02
12.2	11.80	55.40	17.92	5.65	54.15	0.74	28.99	18.67	10.89
12.4	12.04	53.41	17.81	6.20	43.79	0.77	28.78	19.31	10.77
12.6	12.12	52.23	17.96	6.78	39.36	0.80	30.19	19.96	10.75
12.8	12.19	54.38	17.76	7.41	51.83	0.83	30.49	20.26	10.64
13.0	12.20	54.89	18.61	8.13	56.94	0.86	31.08	21.04	10.68
13.2	12.19	54.08	19.03	8.91	53.54	0.88	31.68	21.35	10.63
13.4	12.20	53.42	19.41	9.80	50.94	0.90	31.29	21.92	10.47
13.6	12.18	53.31	18.25	10.43	51.04	0.92	32.23	21.87	10.48
13.8	12.21	54.93	18.23	11.35	62.40	0.94	31.79	22.39	10.35
14.0	12.28	56.63	18.75	12.25	76.56	0.95	32.05	22.45	10.26
14.5	12.49	57.40	18.28	14.89	83.88	0.98	32.19	23.65	10.16
15.0	12.83	57.99	18.55	18.73	88.15	1.00	31.88	24.23	10.05
15.5	13.23	59.20	17.65	23.02	97.29	1.01	32.28	24.50	9.75
16.0	13.65	60.62	18.04	34.83	109.71	1.02	32.30	25.05	9.60
17.0	13.99	58.12	20.38	24.21	79.35	1.01	31.82	25.33	9.51
17.5	14.19	63.25	32.27	16.19	138.42	0.98	32.11	25.10	9.48
18.0	14.54	67.29	22.26	14.09	207.23	0.97	31.92	26.34	9.40
18.5	14.40	55.71	14.82	11.60	52.31	0.96	31.71	25.75	9.20
19.0	14.16	57.05	14.07	13.10	63.72	0.99	31.31	25.23	9.39
19.5	14.36	58.82	11.35	13.91	74.29	1.03	31.12	25.20	9.38
20.0	14.06	60.11	10.84	13.88	88.27	1.04	31.22	25.38	9.57
20.5	13.59	61.47	9.34	14.93	105.79	1.08	30.53	25.63	9.65
21.0	13.20	64.36	8.98	15.85	153.90	1.10	30.32	25.63	9.73
21.5	12.91	58.85	8.54	15.48	82.89	1.11	30.41	25.29	9.78
22.0	12.71	62.63	8.40	14.34	129.22	1.10	30.18	24.75	9.65
22.5	12.45	61.37	7.61	13.77	110.68	1.12	30.82	25.01	9.41
23.0	12.40	60.54	7.75	13.34	101.31	1.11	31.19	25.48	9.30
23.5	12.44	54.16	8.06	13.05	48.89	1.10	30.69	25.57	8.93
24.0	12.80	49.48	9.40	11.95	28.20	1.05	30.65	24.60	8.44
24.5	13.25	45.94	11.72	13.06	19.10	1.02	30.17	24.75	8.13
25.0	13.22	42.87	12.65	12.39	13.61	0.99	30.08	23.99	7.94
25.4	12.76	42.00	15.07	12.28	13.26	0.97	30.74	24.81	7.79
25.6	12.43	41.31	15.93	11.74	12.68	0.95	30.40	25.04	7.81
25.8	12.45	42.72	18.00	11.85	15.05	0.95	30.53	24.60	7.74
26.0	12.29	42.11	16.50	11.55	14.14	0.95	30.75	24.31	7.86
26.2	12.57	41.74	15.62	11.35	13.01	0.95	30.51	24.31	7.91
26.4	12.76	40.69	13.29	11.85	11.17	0.97	30.73	23.80	8.31
26.5	12.63	41.13	11.78	11.21	11.57	0.98	30.49	23.88	8.20

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd* = 4.75V, Id = 542.29mA @ Temperature = +85°C

Note*: V+ = Vd + 1

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
12.0	11.84	55.54	17.21	5.11	51.90	0.71	27.78	16.94	11.36
12.2	12.19	55.02	17.91	5.66	49.66	0.74	28.89	17.90	10.81
12.4	12.43	53.67	17.79	6.22	43.16	0.77	28.70	18.50	10.75
12.6	12.51	52.26	17.99	6.78	37.78	0.80	30.05	19.24	11.10
12.8	12.57	54.62	17.78	7.40	50.92	0.83	30.39	19.53	10.83
13.0	12.58	55.18	18.60	8.11	56.28	0.86	30.97	20.32	10.69
13.2	12.56	54.20	19.04	8.89	51.99	0.88	31.52	20.65	10.79
13.4	12.57	53.53	19.39	9.76	49.41	0.90	31.17	21.17	10.63
13.6	12.54	53.50	18.26	10.38	50.05	0.92	31.92	21.19	10.55
13.8	12.56	55.12	18.23	11.28	61.24	0.94	31.48	21.69	10.57
14.0	12.61	56.43	18.71	12.16	71.90	0.95	31.76	21.77	10.33
14.5	12.80	57.26	18.23	14.76	79.57	0.98	31.92	23.08	10.43
15.0	13.12	57.69	18.49	18.58	82.32	1.00	31.60	23.63	10.18
15.5	13.48	59.19	17.67	22.86	94.36	1.01	32.04	23.87	9.91
16.0	13.88	60.69	18.07	34.48	107.84	1.02	32.12	24.40	9.73
17.0	14.16	58.58	20.40	24.16	82.13	1.01	31.69	24.73	9.78
17.5	14.33	62.08	32.27	16.21	119.01	0.98	31.99	24.50	9.53
18.0	14.66	66.84	22.19	14.19	194.34	0.97	31.97	25.73	9.40
18.5	14.49	56.06	14.83	11.74	54.01	0.96	31.61	25.07	9.22
19.0	14.23	58.24	14.09	13.24	72.54	0.99	31.37	24.49	9.57
19.5	14.40	59.54	11.35	13.94	80.38	1.03	31.04	24.56	9.64
20.0	14.08	60.98	10.85	13.76	97.22	1.04	30.98	24.85	9.91
20.5	13.59	62.30	9.35	14.62	116.20	1.08	30.54	25.15	9.71
21.0	13.21	65.22	9.00	15.57	169.39	1.09	30.37	25.04	9.70
21.5	12.94	59.17	8.54	15.33	85.58	1.11	30.43	24.61	9.73
22.0	12.76	62.82	8.44	14.33	131.52	1.10	30.24	23.92	9.79
22.5	12.52	60.80	7.65	13.81	102.96	1.12	30.75	24.17	9.65
23.0	12.49	61.27	7.77	13.44	109.23	1.11	31.26	24.71	9.51
23.5	12.55	53.91	8.06	13.18	46.93	1.10	30.72	24.79	9.00
24.0	12.94	49.51	9.42	12.11	27.93	1.05	30.61	23.84	8.65
24.5	13.40	45.73	11.82	13.25	18.40	1.02	30.59	23.95	8.26
25.0	13.40	42.77	12.73	12.54	13.22	0.99	30.32	23.15	8.16
25.4	12.97	41.92	15.04	12.43	12.86	0.97	31.02	23.95	8.05
25.6	12.58	41.24	15.79	11.86	12.40	0.96	30.67	24.19	8.02
25.8	12.62	42.76	18.14	11.91	14.84	0.95	30.68	23.71	7.95
26.0	12.46	42.00	16.56	11.56	13.69	0.95	30.77	23.51	8.16
26.2	12.69	41.85	15.42	11.36	12.98	0.95	30.88	23.41	8.37
26.4	12.89	40.74	13.23	11.80	11.05	0.97	31.08	22.92	8.36
26.5	12.73	40.75	11.58	11.17	10.91	0.98	30.75	23.06	8.33

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

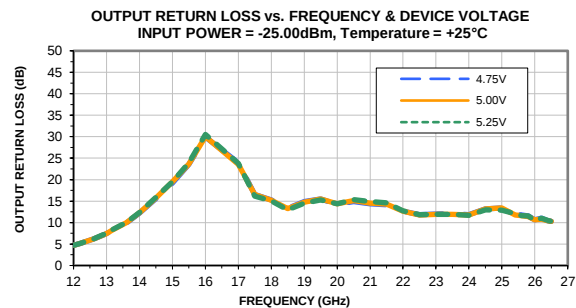
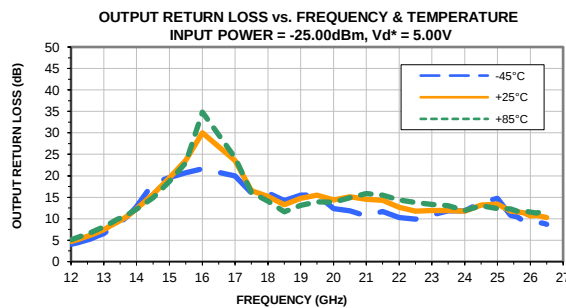
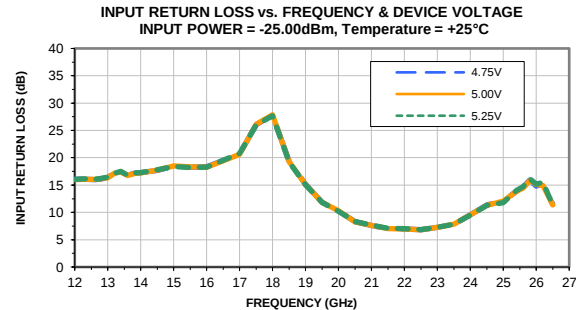
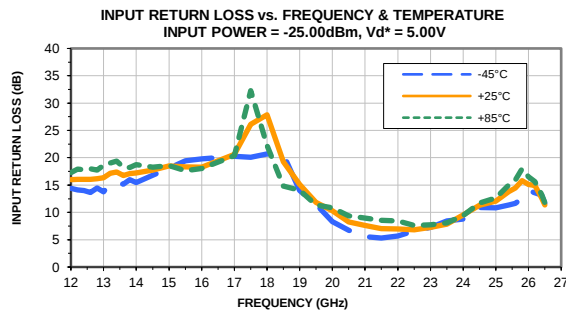
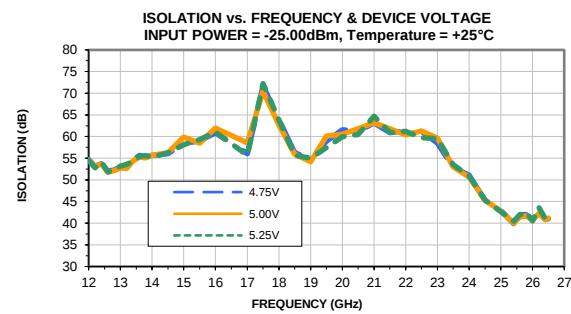
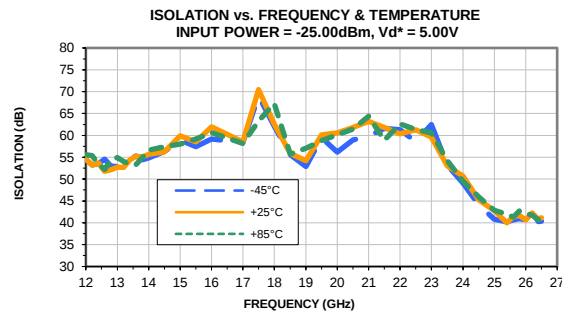
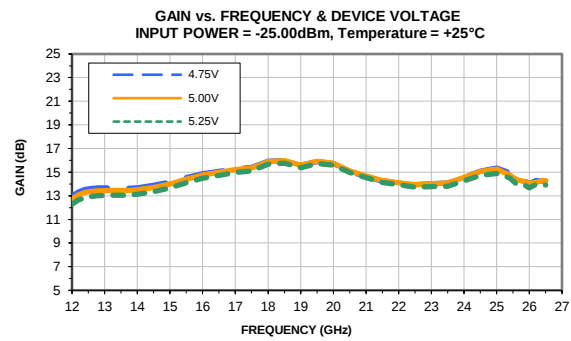
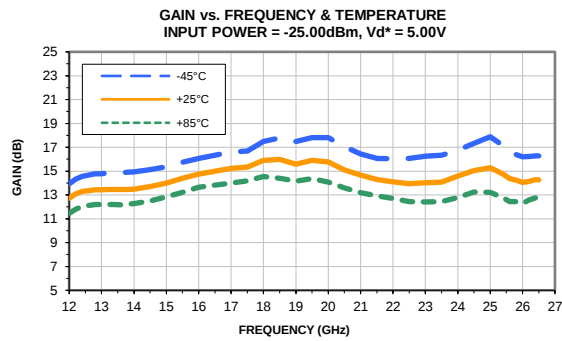
TEST CONDITIONS: Vd* = 5.25V, Id = 614.98mA @ Temperature = +85°C

Note*: V+ = Vd + 1

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
12.0	10.84	55.50	17.23	5.10	57.86	0.70	27.77	18.46	11.16
12.2	11.19	54.69	17.93	5.66	53.60	0.74	28.89	19.38	11.06
12.4	11.42	53.77	17.88	6.24	49.08	0.77	28.67	19.99	11.05
12.6	11.51	52.14	18.06	6.82	41.89	0.80	30.15	20.61	10.98
12.8	11.57	54.48	17.87	7.46	56.42	0.83	30.48	20.91	10.88
13.0	11.59	55.11	18.70	8.18	62.74	0.86	31.16	21.69	10.88
13.2	11.60	53.81	19.07	8.99	55.69	0.88	31.83	22.00	10.80
13.4	11.62	53.53	19.40	9.88	55.29	0.91	31.49	22.52	10.76
13.6	11.61	53.33	18.31	10.53	54.81	0.92	32.40	22.48	10.67
13.8	11.65	54.75	18.24	11.46	65.36	0.94	32.00	22.99	10.58
14.0	11.72	56.05	18.67	12.36	76.47	0.95	32.44	23.01	10.56
14.5	11.97	57.24	18.23	14.99	87.52	0.98	32.45	24.20	10.34
15.0	12.33	57.24	18.46	18.80	85.60	1.00	32.27	24.80	10.22
15.5	12.76	58.90	17.61	23.09	99.16	1.01	32.66	25.08	10.02
16.0	13.21	60.63	17.99	35.43	115.68	1.02	32.85	25.65	9.81
17.0	13.58	57.79	20.43	24.20	80.07	1.01	32.16	26.01	9.74
17.5	13.78	62.18	32.45	15.90	127.92	0.97	32.35	25.86	9.79
18.0	14.17	68.03	22.09	13.91	235.08	0.97	32.18	27.07	9.69
18.5	14.03	55.93	14.77	11.43	55.78	0.96	31.85	26.40	9.50
19.0	13.82	58.82	14.02	12.89	81.02	0.99	31.34	25.87	9.56
19.5	14.02	59.12	11.29	13.81	79.88	1.03	31.25	25.84	9.61
20.0	13.74	59.65	10.85	13.99	86.91	1.04	31.16	26.04	9.87
20.5	13.27	62.51	9.37	15.11	124.12	1.08	30.73	26.38	9.95
21.0	12.88	64.99	9.03	16.10	172.15	1.10	30.45	26.47	10.09
21.5	12.57	58.82	8.58	15.62	86.12	1.11	30.51	26.22	10.09
22.0	12.33	62.33	8.47	14.35	130.70	1.10	30.26	25.73	9.97
22.5	12.04	60.05	7.67	13.81	99.86	1.12	30.80	25.87	9.68
23.0	11.98	61.09	7.79	13.34	113.47	1.11	31.18	26.31	9.60
23.5	12.00	54.18	8.10	13.00	51.51	1.10	30.50	26.42	9.25
24.0	12.34	49.90	9.37	11.83	31.11	1.04	30.39	25.40	8.78
24.5	12.73	45.86	11.67	12.87	20.04	1.01	30.32	25.52	8.43
25.0	12.69	43.04	12.74	12.19	14.72	0.99	30.19	24.75	8.25
25.4	12.28	42.16	15.28	12.27	14.30	0.97	30.70	25.61	8.07
25.6	11.96	41.48	16.15	11.86	13.70	0.95	30.47	25.81	8.04
25.8	11.96	42.65	18.32	11.83	15.79	0.95	30.60	25.42	8.10
26.0	11.84	41.71	16.63	11.53	14.22	0.95	30.91	25.13	8.14
26.2	12.10	41.66	15.60	11.39	13.62	0.95	30.78	25.12	8.22
26.4	12.28	40.60	13.43	11.87	11.70	0.97	30.75	24.57	8.59
26.5	12.16	40.55	11.71	11.22	11.40	0.98	30.57	24.71	8.45

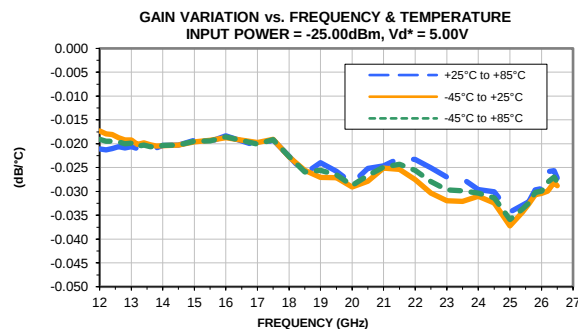
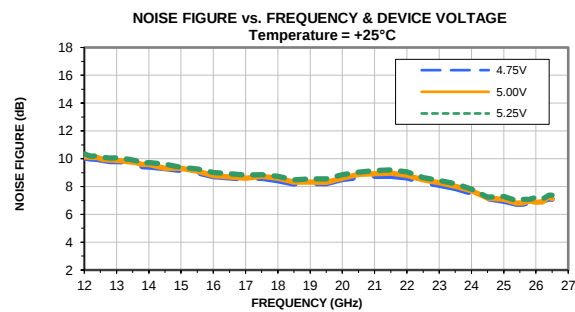
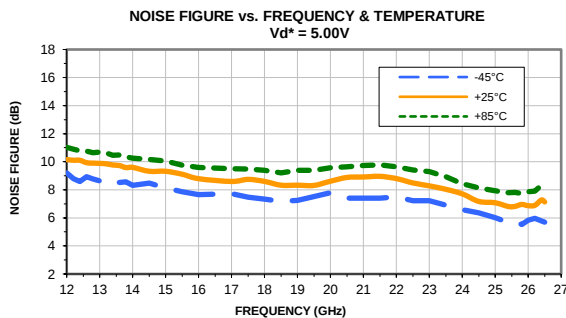
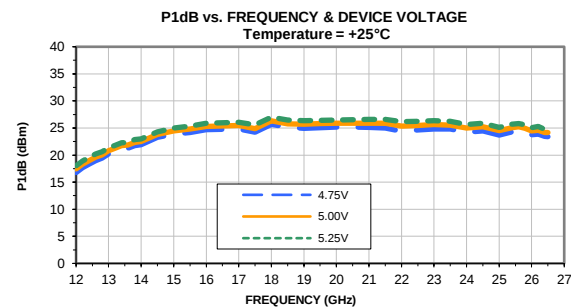
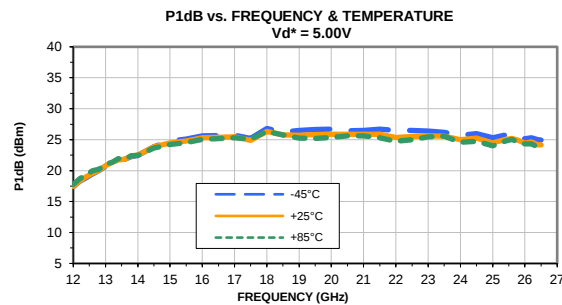
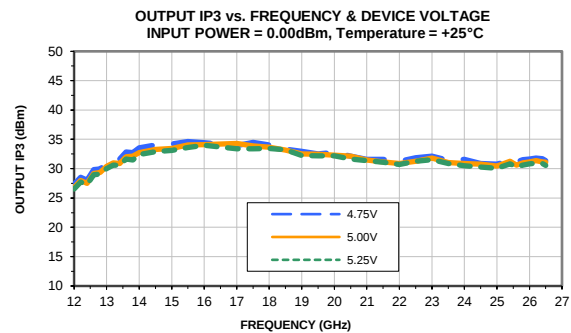
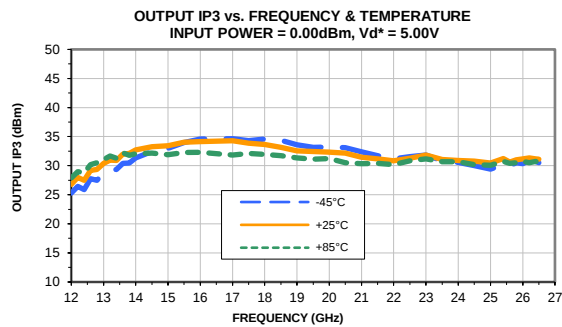
Typical Performance Curves

Note*: $V_+ = V_d + 1$

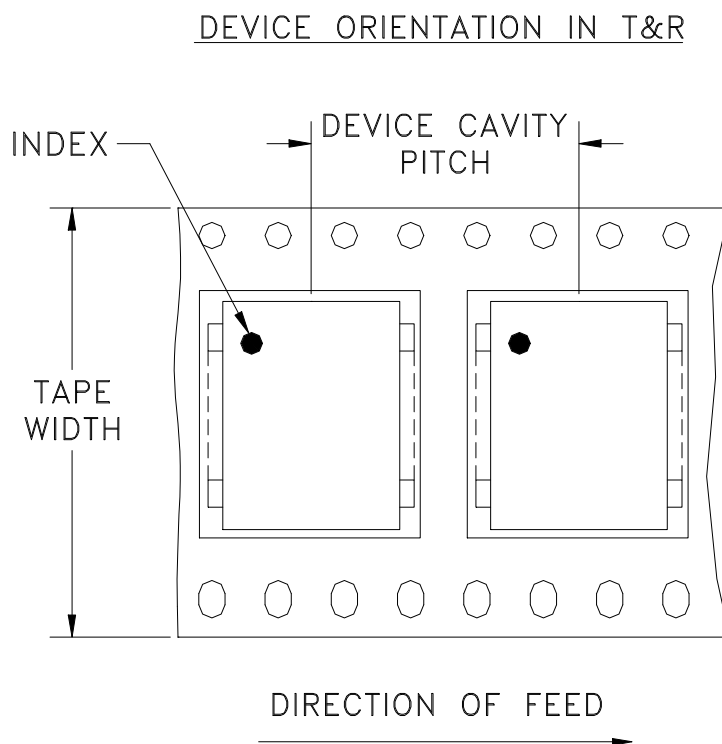


Typical Performance Curves

Note*: $V_+ = V_d + 1$



Tape & Reel Packaging TR-F21



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
32	32	13	200

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



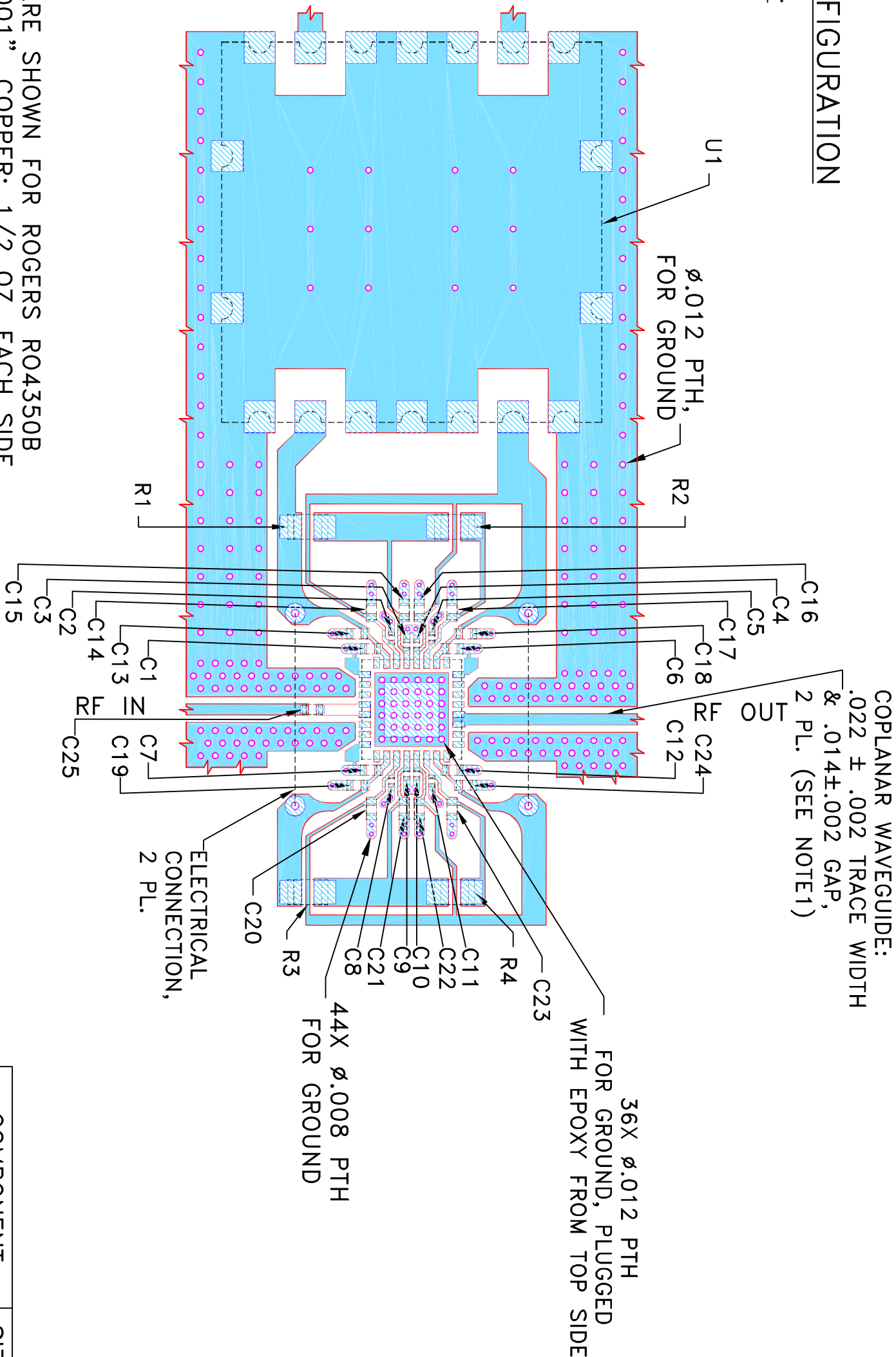
INTERNET <http://www.minicircuits.com>

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Mini-Circuits ISO 9001 & ISO 14001 Certified

SUGGESTED MOUNTING CONFIGURATION
FOR AVM-273HPK+



NOTES:

1. COPPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010"±.001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. CHIP COMPONENT FOOT PRINTS SHOWN FOR REFERENCE.
3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

OR	M150537	NEW RELEASE	04/01/15	GF	RS
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
REVISIONS					

THIRD ANGLE PROJECTION

COMPONENT	SIZE
C2-5, C8-11	0201
C1, C6-7, C12-25	0402
R1-4	0805

Mini-Circuits®
13 Neptune Avenue
Brooklyn NY 11235

PL, AVM-273HPK+, TB-715-VCM

SIZE
B

CODE IDENT
15542

DRAWING NO:
98-PL-448

REV:
OR

FILE:
98PL448

SCALE:
4:1

SHEET:
1 OF 1

UNLESS OTHERWISE SPECIFIED		INITIALS		DATE	
DIMENSIONS ARE IN INCHES		DRAWN	GF	03/24/15	
TOLERANCES ON:					
2 PL. DECIMALS ±		CHECKED	IL	04/01/15	
3 PL. DECIMALS ±	.005	APPROVED	RS	04/01/15	
ANGLES ±					
FRACTIONS ±					

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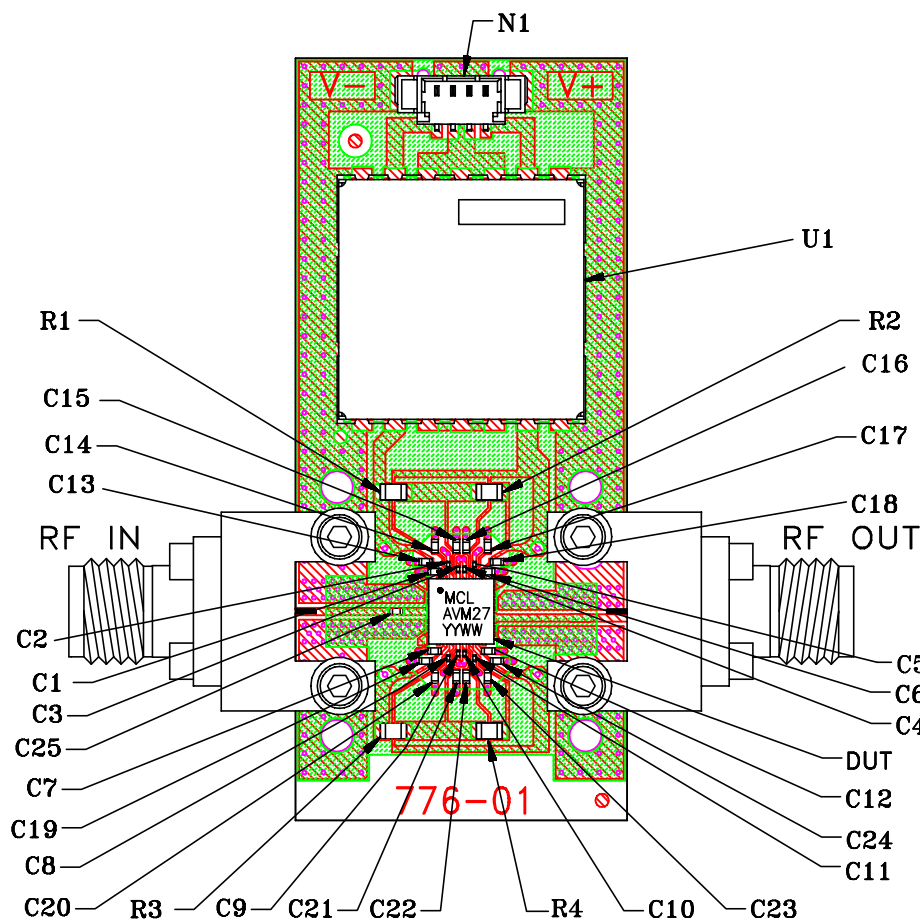
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Evaluation Board and Circuit

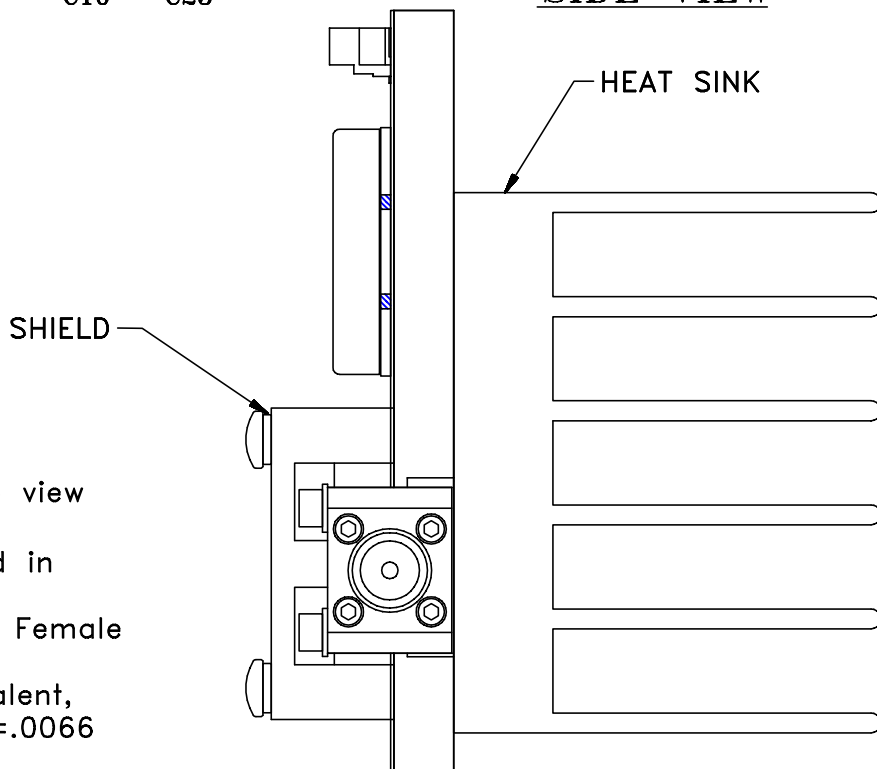
TOP VIEW

SEE NOTE1



TB-715-VCM

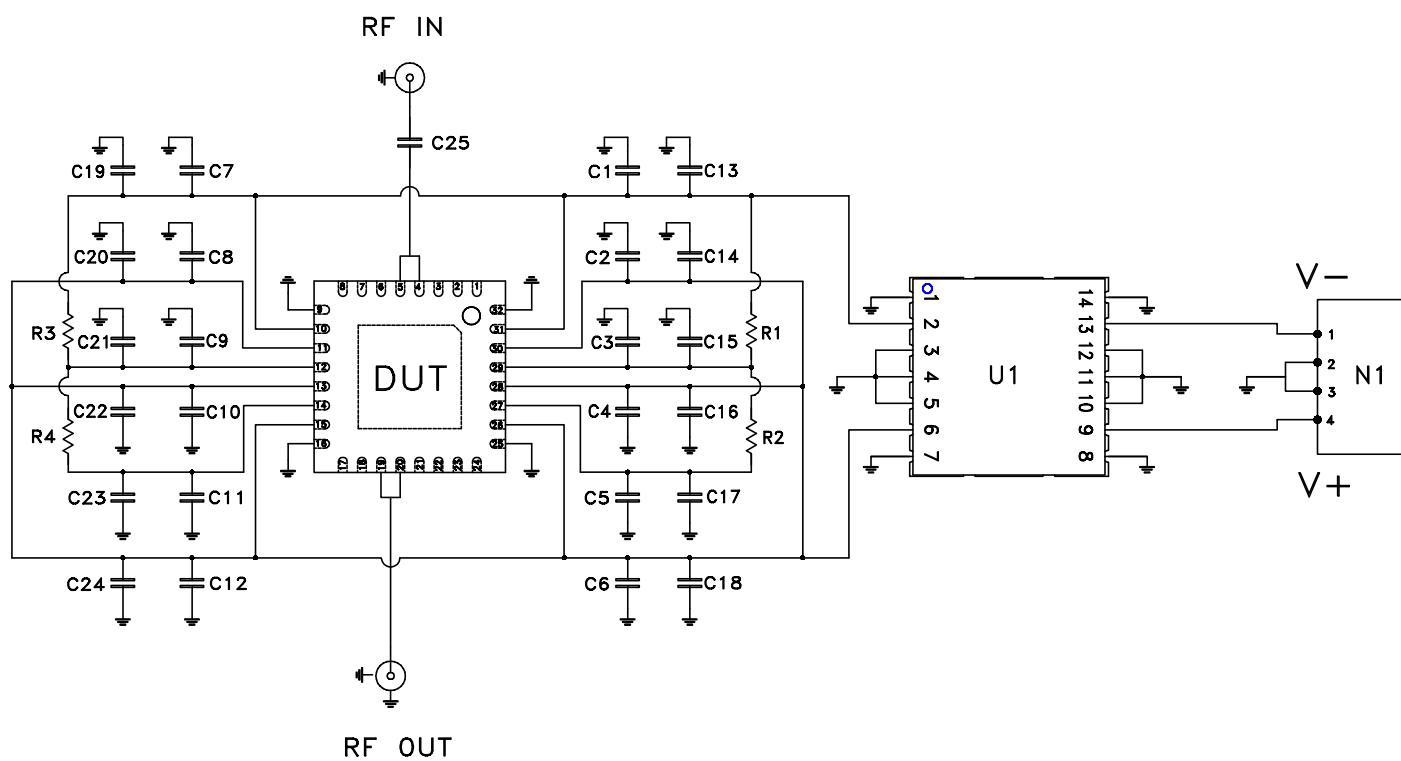
SIDE VIEW



Notes:

1. Shield is not shown on the top view for clarity.
2. Test cable for "N1" is included in TB-715-VCM.
3. 50 Ohm 2.92 mm End Launch Female connectors.
4. PCB Material: R04350 or equivalent, Dielectric Constant=3.5, Thickness=.0066 inch.

 **Mini-Circuits®**



Schematic Diagram

COMPONENT	VALUE/ PART NUMBER	SIZE
DUT	AVM-273HP+	—
N1	CONN VERTICAL HEADER 4 POS	—
U1	SEQUENCING & DC CONTROL MODULE	—
C1,C6,C7,C12-C24	.1 uF	.04 X .02
C2-C5,C8-C11	470 pF	.02 X .01
C25	.1 uF	.04 X .02
R1-R4	0 Ohm	.08 X .05
TEST CABLE	B66-225+M	—