

Features:

- Frequency Range: 1 – 10 GHz
- P-1dB: 15dBm
- Psat: 17dBm
- Gain: 15dB
- Single Positive Bias: + 6V
- Fully Matched Input/Output to 50 ohms
- Advanced 0.25 um AlGaAs / InGaAs PHEMT Technology with Excellent Reliability
- RoHS Compliant Package: 5.0 X 5.0 X 0.8 mm
- MTTF > 100 years @ 85°C ambient temperature



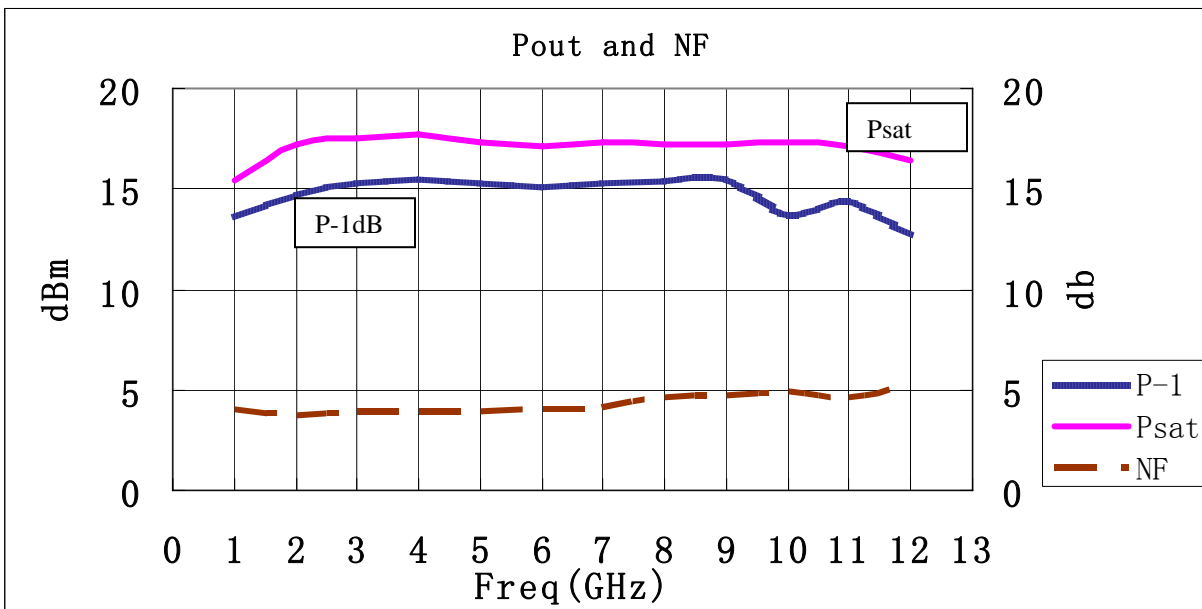
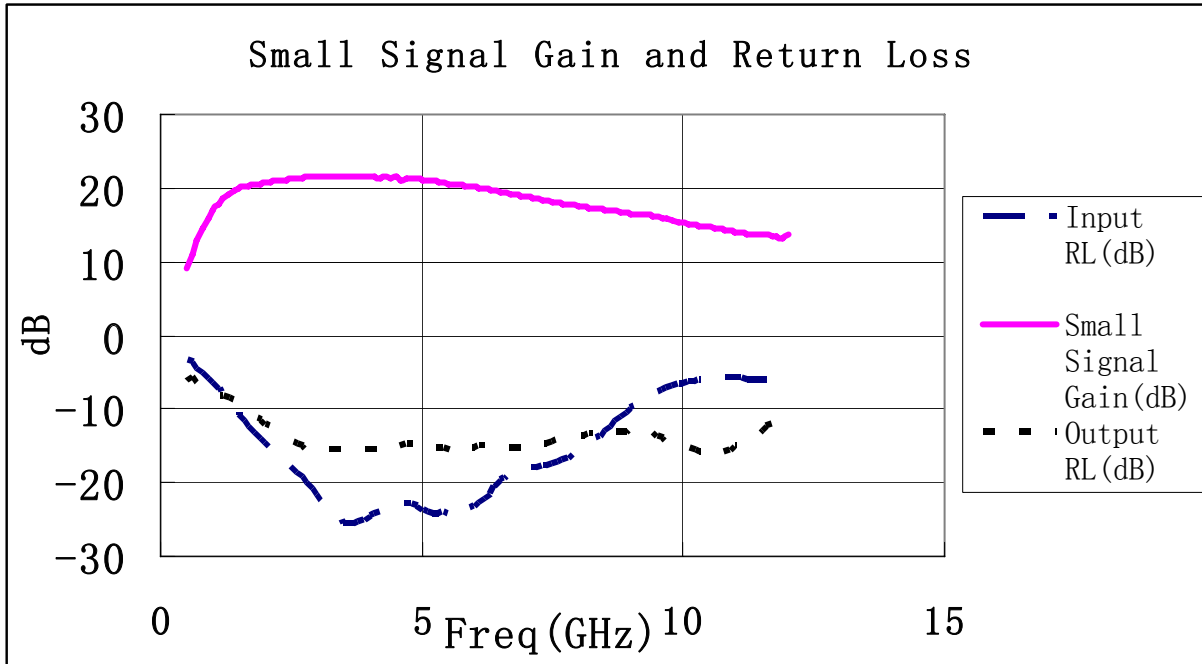
Description:

The MMA-011015-C5 is a 1-10 GHz broadband MMIC driver amplifier fabricated with advanced 0.25 um AlGaAs / InGaAs PHEMT technology with excellent reliability. The fully matched MMIC amplifier is easy to cascade with other stages and is unconditionally stable. The typical applications include military broadband systems, test instrumentation, and commercial wireless equipment, etc.

Electrical Specifications: (V_{ds} = 6.0V, I_{ds}=75mA, Z_o=50 ohm, T_A=25 °C)

Parameter	Units	Min.	Typ.	Max.
Frequency Range (Min/Max)	GHz	1		10
Small Signal Gain	dB	10	15	
Gain Flatness	+/-dB		2.5	
Input Return Loss	dB		-10	
Output Return Loss	dB		-10	
Output P1dB	dBm		+15	
Output Saturation Power	dBm		+17	
Noise Figure	dB		4.0	
Operating Current Range	mA		75	
Thermal Resistance	°C/W		120	

Typical RF Performance: ($V_{ds} = 6.0V$, $I_{ds}=75mA$, $T_A=25^\circ C$, 50 Ohm system unless stated otherwise)



S-parameters: ($V_{ds} = 6.0V$, $I_{ds}=75mA$, $T_A=25\text{ }^\circ\text{C}$, 50 Ohm system)

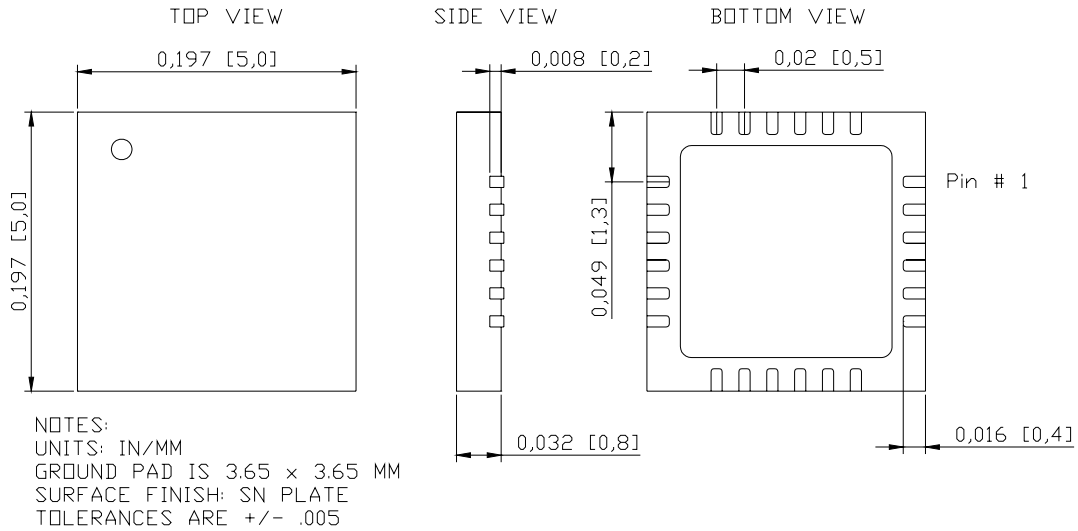
Freq(GHz)	magS11	angS11	magS21	angS21	magS12	angS12	magS22	angS22
1.0	0.47	-174.2	7.00	-9.38	0.006	84.91	0.42	18.93
1.5	0.29	120.5	9.87	-74.03	0.014	-18.02	0.33	-81.20
2.0	0.19	71.2	10.91	-131.30	0.018	-85.27	0.25	-156.30
2.5	0.13	25.7	11.51	178.00	0.018	-138.30	0.19	148.70
3.0	0.08	-11.0	11.88	127.60	0.017	175.00	0.17	102.60
3.5	0.05	-27.3	11.83	78.99	0.016	129.50	0.17	65.33
4.0	0.06	-41.8	11.93	31.65	0.014	84.32	0.17	29.09
4.5	0.07	-82.0	11.89	-16.77	0.013	40.10	0.18	-12.11
5.0	0.07	-145.3	11.31	-64.18	0.013	-5.37	0.18	-52.05
5.5	0.06	131.8	10.74	-111.10	0.012	-55.78	0.17	-90.80
6.0	0.07	56.8	10.14	-157.80	0.011	-104.80	0.17	-135.70
6.5	0.10	-6.0	9.38	157.10	0.010	-147.40	0.17	175.70
7.0	0.13	-61.6	8.76	113.00	0.010	166.90	0.17	127.50
7.5	0.13	-123.2	8.07	68.80	0.010	122.90	0.19	82.03
8.0	0.16	168.8	7.53	26.25	0.009	80.10	0.21	39.85
8.5	0.23	104.8	7.09	-17.00	0.009	39.33	0.21	0.17
9.0	0.32	48.0	6.61	-60.04	0.007	3.40	0.23	-35.98
9.5	0.41	-1.4	6.33	-104.30	0.008	-33.67	0.21	-84.15
10.0	0.47	-46.7	5.84	-147.80	0.007	-72.67	0.17	-139.60

Absolute Maximum Ratings (*):

SYMBOL	PARAMETER	UNITS	ABSOLUTE MAXIMUM
V _{ds}	Drain-Source Voltage	V	8.0
I _{ds}	Drain Current	mA	150
P _{in max}	RF Input Power	dBm	+12
T _{ch}	Channel Temperature	°C	175
T _{stg}	Storage Temperature	°C	-60 to 150

(*) Operation of this device above any one of these parameters may cause permanent damage.

Mechanical Information: *This Package is RoHS compliant*



All dimensions are in mm

Pin Assignment			
Pin #	Function	Pin #	Function
1	N/A	13	N/A
2	N/A	14	N/A
3	RF in	15	RF out
4	RF in	16	RF out
5	N/A	17	N/A
6	N/A	18	N/A
7	N/A	19	N/A
8	N/A	20	N/A
9	N/A	21	Vdd
10	N/A	22	Vdd
11	N/A	23	N/A
12	N/A	24	N/A