Power Amplifier Module
700 – 2200MHz, 30dB, 8W

AM072239UM-2H
January 2014
Rev1

DESCRIPTION

AMCOM's AM072239UM-2H is a broadband GaAs Power Amplifier module. AM072240UM-2H is a wideband power amplifier designed for Wireless Internet Access, Wireless Local Loop, and Two Way Radio. It operates from 700 MHz to 2200 MHz and typically delivers more than 5 watts (37dBm) CW output power and 30 dB small signal gain. The amplifier module has 4 screw slots for mounting to a heat sink. This amplifier module is very small and light weight at 1.5" (L) x 1.2" (W) x 0.56" (H) and 1.6 oz (45g).

FEATURES

- Wide bandwidth from 0.7 to 2.2GHz
- 39dBm of saturated CW output power
- High gain, 30dB
- Input /Output matched to 50 Ohms

APPLICATIONS

- Commercial telecom transmission equipment
- Fixed microwave backhaul
- Commercial 2-way radio

TYPICAL PERFORMANCE * ($V_{dd1,2}$ = 28V, I_{ddq1} = 0.2A, I_{ddq2} = 0.6A, $V_{gs1,2}$ = -0.94V)

Parameters	Minimum	Typical **	Maximum
Frequency	0.8 – 2.0GHz	0.7 – 2.2 GHz	
Small Signal Gain	27 dB	30 dB	33 dB
Gain Ripple		± 1 dB	± 4.0 dB
P_{1dB}	36 dBm	38 dBm	
P_{3dB}	37 dBm	39 dBm	
Efficiency @ P_{3dB}		25%	
Noise Figure		-	10 dB
IP3 @ 1.5GHz		TBD	
Input Return Loss		15 dB	
Output Return Loss		3 dB	
Thermal Resistance		4 °C/W	

* Notes:
1- Specifications are subject to change without notice.
2- $V_{gs1,2}$ should be adjusted to -0.90V approximately to get the specified currents, and will vary slightly from one unit to another.
3- Measurements are done in CW mode.

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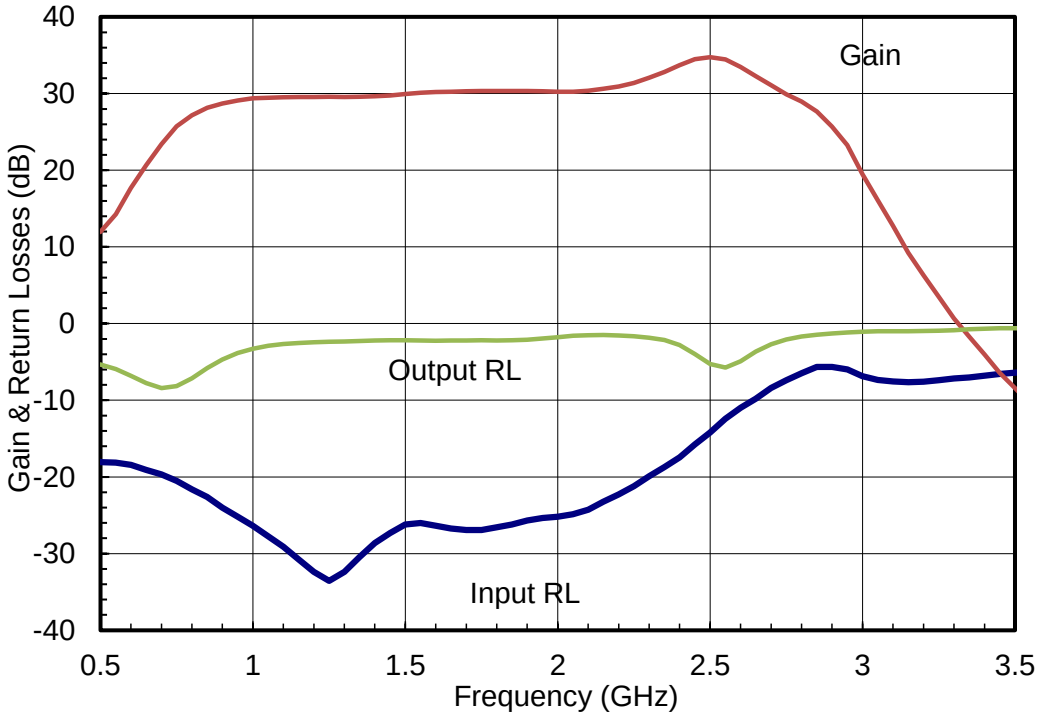
ABSOLUTE MAXIMUM RATING

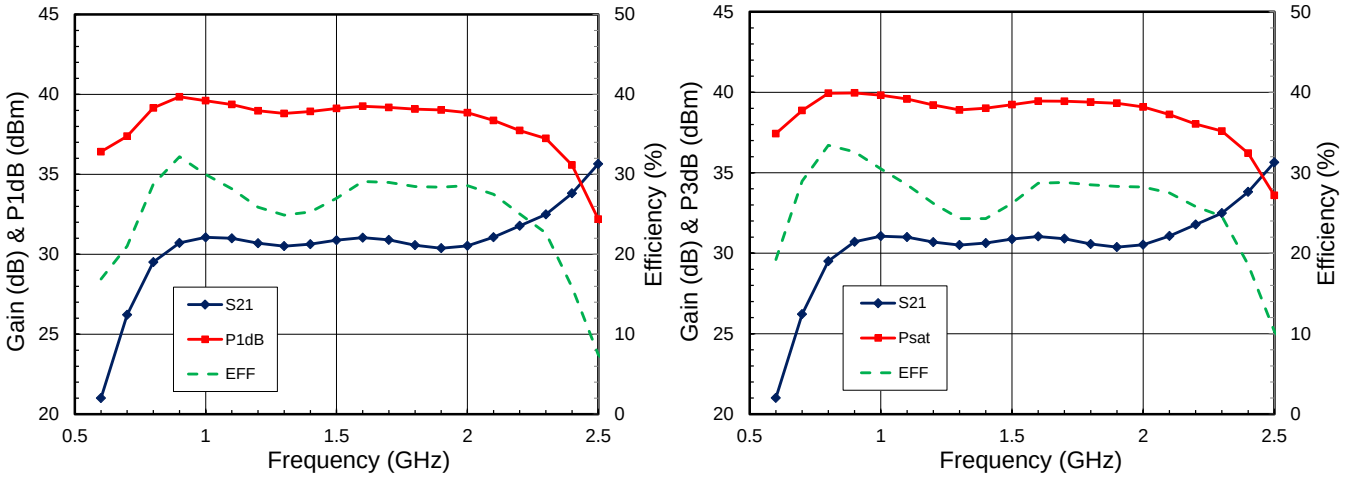
Parameters	Symbol	Rating
Drain source voltage	$V_{dd1,2}$	30V
Gate source voltage	$V_{gs1,2}$	-3V
Drain source current	I_{ddq1}	0.3A
Drain source current	I_{ddq2}	1.2A
Continuous dissipation at 25ºC	P_t	40W
Channel temperature	T_{ch}	175°C
Operating temperature	T_{op}	-55°C to +85°C
Storage temperature	T_{sto}	-55°C to +135°C

SMALL SIGNAL DATA*



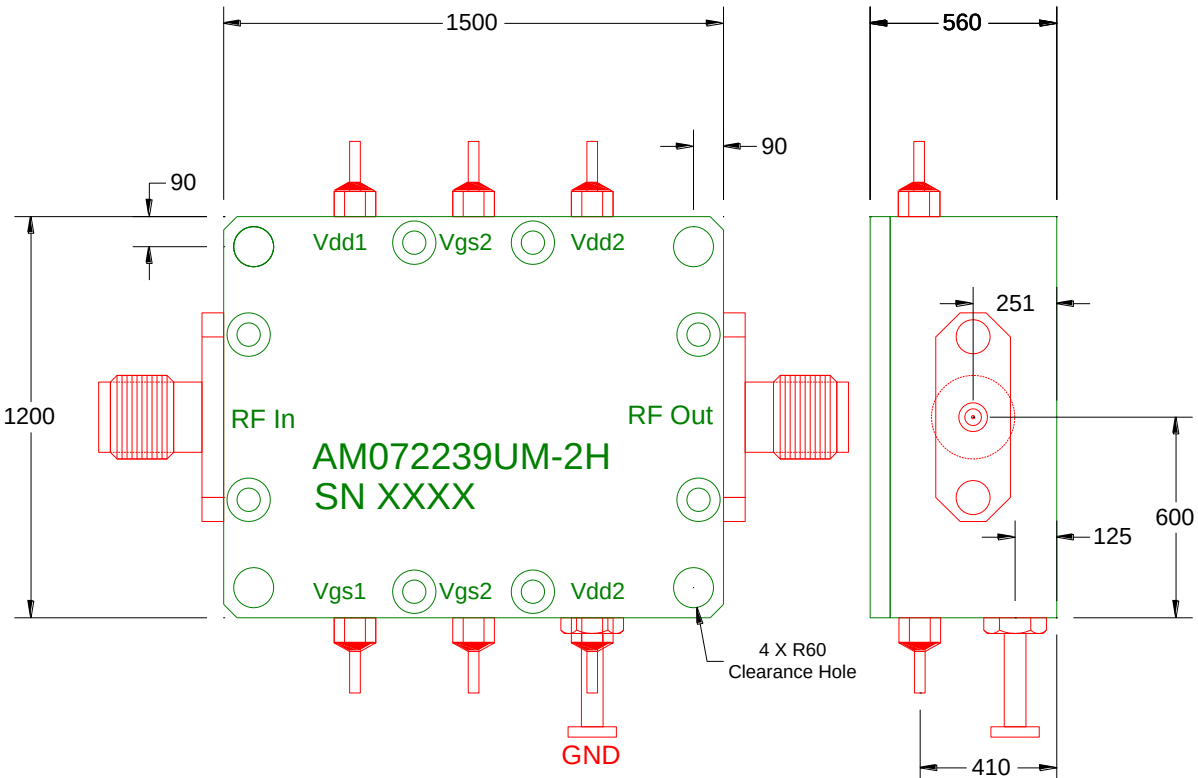
* Data shown is for $V_{dd1,2}$=+28V, I_{ddq1}=0.2A, I_{ddq2}=0.6A, $V_{gs1,2}$=-0.94V.

POWER DATA *



* Data shown is for $V_{dd1,2}$=28V, I_{ddq1}=0.2A, I_{ddq2}=0.6A, $V_{gs1,2}$=-0.94V and measured in CW mode.

PACKAGE OUTLINE



Dimensions in mils

*Notes:

1- $V_{gs1,2}$ bias values are for reference only and will vary slightly from one unit to another.

3- When both first and second stages are pinched off ($V_{gs1,2}$ < -2V), there will still be a small current flowing in internal biasing circuitry.

Pin No.	Function	Bias
1	V_{gs1}	-0.94V
2	V_{gs2}	-0.94V
3	V_{dd2}	+28V
4	V_{dd2}	+28V
5	V_{gs2}	-0.90V
6	V_{dd1}	+28V