

DESCRIPTION

AMCOM's AM559538UM-3H is a broadband GaAs MMIC Power Amplifier. It has a nominal CW performance of 24dB small signal gain, and 38dBm (6W) saturated output power over the 5.5 to 9.5GHz band. 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 5.5 to 9.5GHz
- 38dBm of saturated CW output power
- High gain, 24dB
- Input /Output matched to 50 Ohms

APPLICATIONS

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

TYPICAL PERFORMANCE * ($V_{ds1,2,3} = 8V$, $I_{dsq1} = 0.25A$, $I_{dsq2} = 0.66A$, $I_{dsq3} = 1.6A$, $V_{gs1,2,3} = -0.87V$)

Parameters	Minimum	Typical **	Maximum
Frequency	6 – 9 GHz	5.5 – 9.5 GHz	
Small Signal Gain	20 dB	24 dB	28 dB
Gain Ripple		± 3 dB	± 5.0 dB
P_{1dB}		37 dBm	
P_{3dB}	36 dBm	38 dBm	
Efficiency @ P_{3dB}		25%	
Noise Figure		-	10 dB
IP3 @ 7.5GHz		TBD	
Input Return Loss		10 dB	
Output Return Loss		6 dB	
Thermal Resistance		4.1 °C/W	

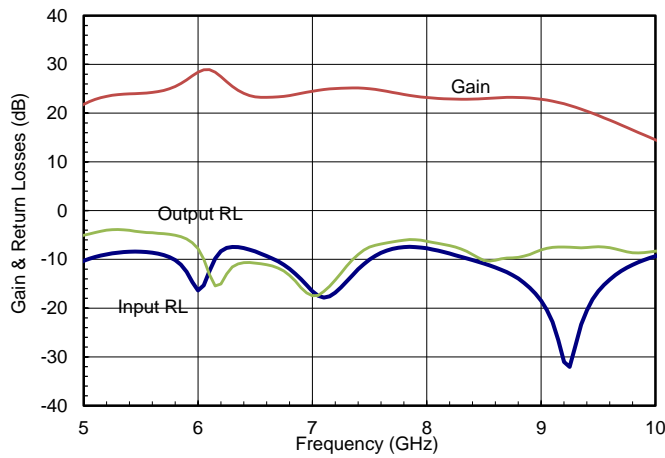
*Notes:

- 1- Specifications are subject to change without notice.
- 2- $V_{gs1,2,3}$ should be adjusted to -0.87V approximately to get the specified currents, and will vary slightly from one unit to another.

ABSOLUTE MAXIMUM RATING

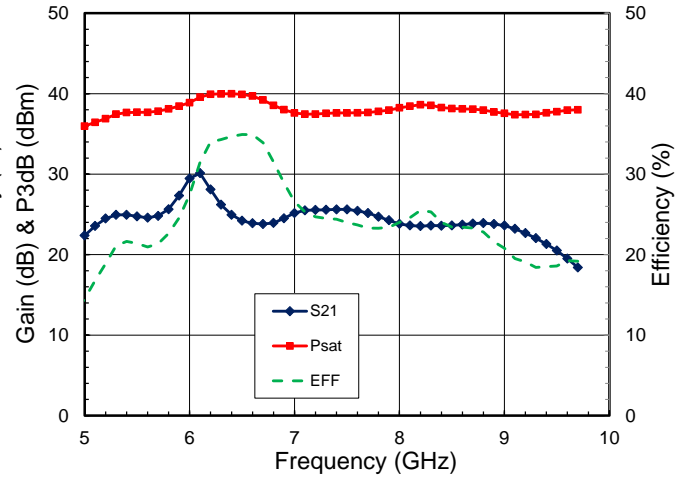
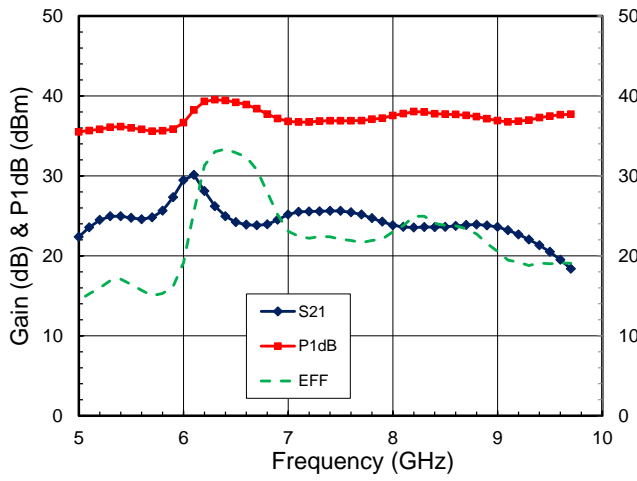
Parameters	Symbol	Rating
Drain source voltage	$V_{ds1,2,3}$	9V
Gate source voltage	$V_{gs1,2,3}$	-3V
Drain source current	I_{dsq1}	0.3A
Drain source current	I_{dsq2}	1.0A
Drain source current	I_{dsq3}	2.0A
Continuous dissipation at 25°C	P_t	30W
Channel temperature	T_{ch}	175°C
Operating temperature	T_{op}	-40°C to +85°C
Storage temperature	T_{sto}	-55°C to +135°C

SMALL SIGNAL DATA*



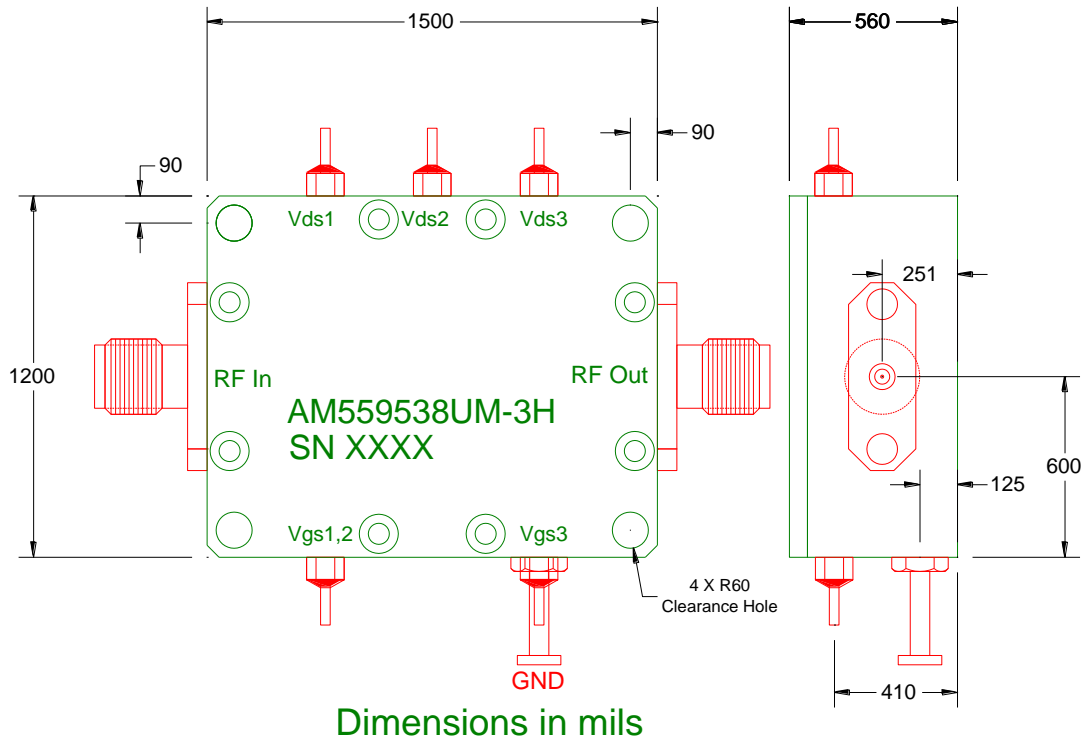
* Biased at $V_{ds1,2,3}=8V$, $I_{dsq1}=0.25A$, $I_{dsq2}= 0.66A$, $I_{dsq3}=1.6A$, $V_{gs1,2,33}=-0.87V$.

POWER DATA *



* Biased at $V_{ds1,2,3}=+8V$, $I_{dsq1}=0.25A$, $I_{dsq2}=0.66A$, $I_{dsq3}=1.6A$.

PACKAGE OUTLINE



Pin No.	Function	Bias
1	V_{gs1}, V_{gs2}	-0.87V
2	NC	-
3	V_{gs3}	-0.87V
4	V_{ds3}	+8V
5	V_{ds2}	+8V
6	V_{ds1}	+8V

Important Notes:

- 1- Recommended bias currents are bias are: $I_{dsq1}=0.25A$, $I_{dsq2}= 0.66A$, $I_{dsq3}=1.6A$, for the first stage, second and third stage currents respectively.
- 2- Gate $V_{gs1,2,3}$ bias of -0.87V are for reference only. $V_{gs1,2,3}$ could be adjusted to vary the currents going thru the module.
- 3- Do not apply V_{ds1} & V_{ds2} & V_{ds3} without proper negative voltages.