

DESCRIPTION

AM232537SF-2H is a T/R module designed for ISM band. It operates from 2.3GHz to 2.5GHz and typically delivers 5 watts (37dBm) CW output power and 22dB small signal gain on the transmit side and 16dB gain with 1.5dB noise figure on the receive side. The module has a built-in negative voltage supply and a protection switch. It can be biased from +12V to +16V single voltage supply. The amplifier module has 6 screw slots for mounting to a heat sink.

FEATURES

- Wide bandwidth from 2.1 to 2.7GHz
- High output power, $P_{1dB} = 37\text{dBm}$ (5W)
- TX High gain, 22dB
- +14VDC single bias.
- RX gain = 16dB, NF = 1.5dB

APPLICATIONS

- Wireless Internet Access
- ISM Band
- Wireless Local Loop
- Two Way Radio

PERFORMANCE ($V_{dd} = +14\text{V}$, $I_{dq} = 1.9\text{A}$, $T_a = 25^\circ\text{C}$)

A) Transmit Chain

Parameters	Minimum	Typical	Maximum
Frequency	2300 – 2500MHz	2100 – 2600MHz	
Gain	19dB	22dB	25dB
Gain Variation		$\pm 2\text{dB}$	$\pm 3\text{dB}$
Power at 1dB Comp.	36dBm (4W)	37dBm (5W)	
Input & Output Impedance		50 Ohms	
Input Return Loss	10dB	14dB	
Output Return Loss	9dB	11dB	
RF Connectors		SMA-Female	

B) Receive Chain

Parameters	Minimum	Typical	Maximum
Frequency	2300 – 2600MHz	2100 – 2600MHz	
Gain	13dB	16dB	19dB
Gain Variation		$\pm 2\text{dB}$	$\pm 3\text{dB}$
Power at 1dB Comp.	8dBm	10dBm	
IP3		20dBm	
NF		1.5dB	2dB
Input & Output Impedance		50 Ohms	
Input Return Loss	10dB	13dB	
Output Return Loss	10dB	12dB	
RF Connectors		SMA-Female	

C) Other

Parameters	Minimum	Typical	Maximum
Voltage Supply	+12V	+14V	+16V
Supply Current		1.9A	2.5A
Operating Temperature		-40°C to +70°C	
DC Connector		Feed thru Pins	
Mechanical Package Size		2.80" x 3.00" x 0.56"	
Weight		130g	

ABSOLUTE MAXIMUM RATING

Parameters	Symbol	Rating
Supply voltage	V_{dd}	16V
Continuous dissipation at room temperature	P_t	40W
Operating ambient temp	T_a	-45°C to +85°C
Storage temperature	T_{sto}	-60°C to +150°C

SMALL SIGNAL DATA

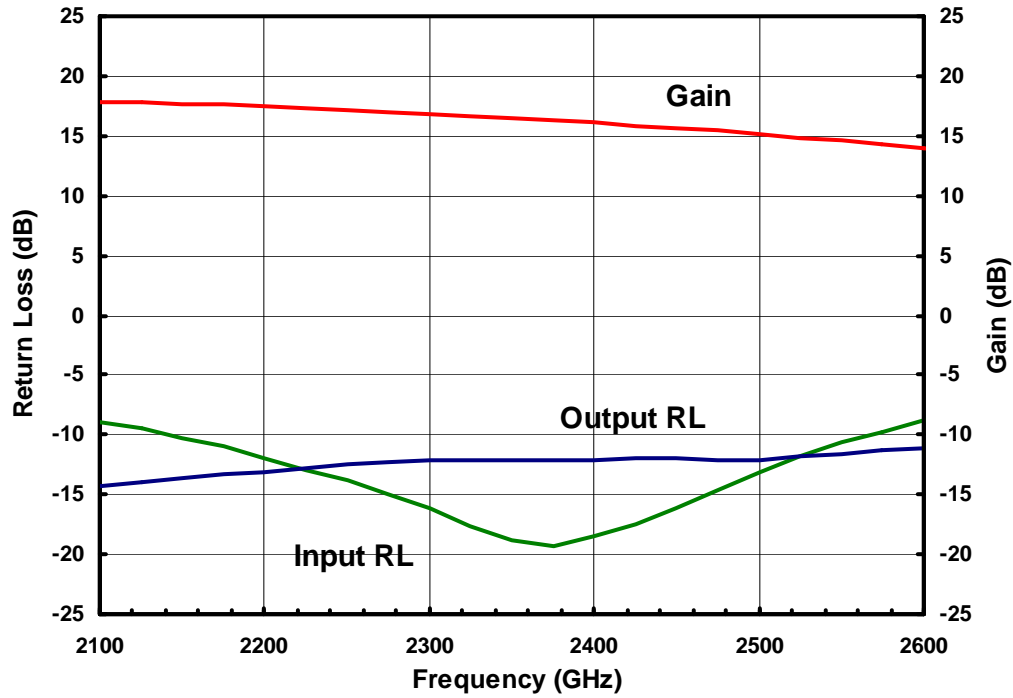


Figure 1: Gain and return loss of receive chain versus frequency. ($V_{dd} = +14V$, $T_a = 25^\circ C$)

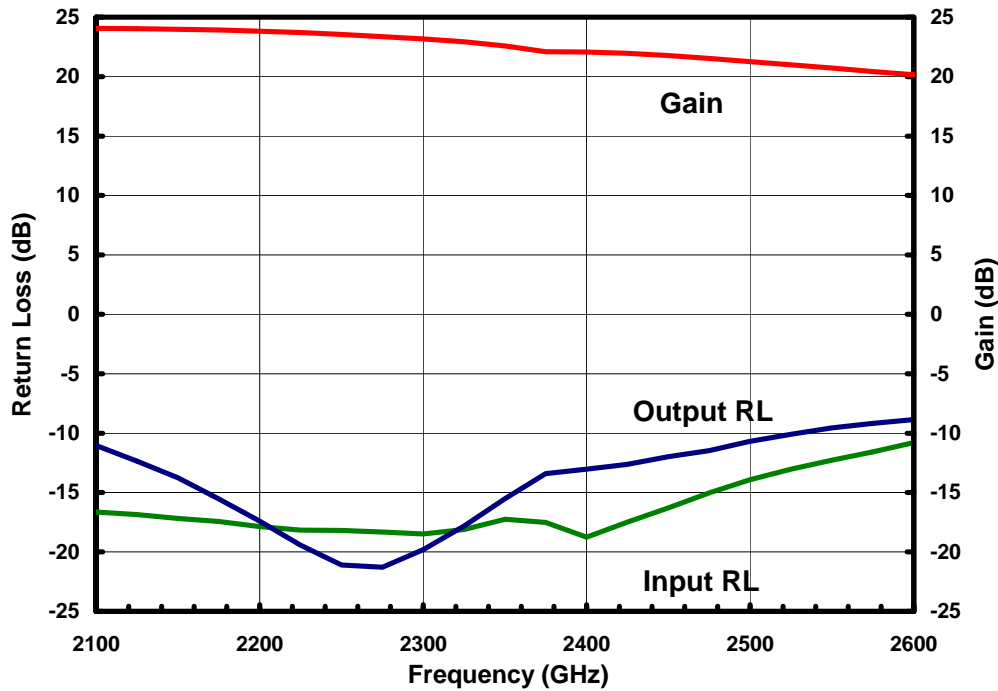


Figure 2: Gain and return loss of transmit chain versus frequency. ($V_{dd} = +14V$, $T_a = 25^\circ C$)

POWER DATA

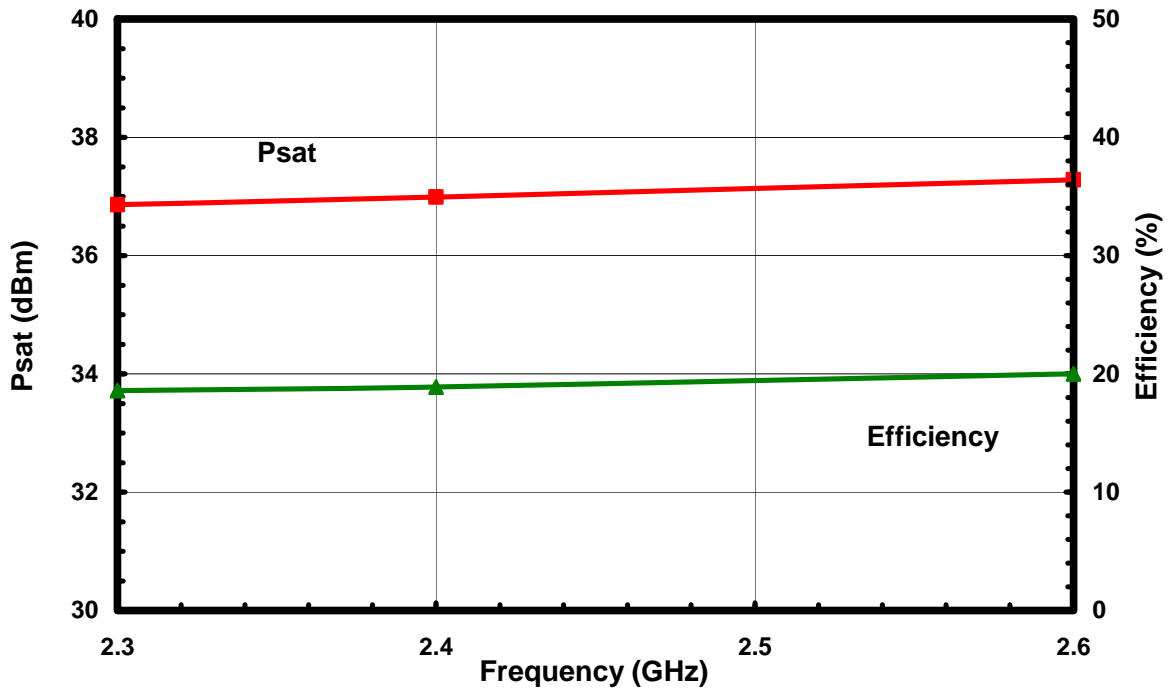


Figure 3: TX Chain P_{1dB} and efficiency (V_{dd} = +14V) versus frequency.

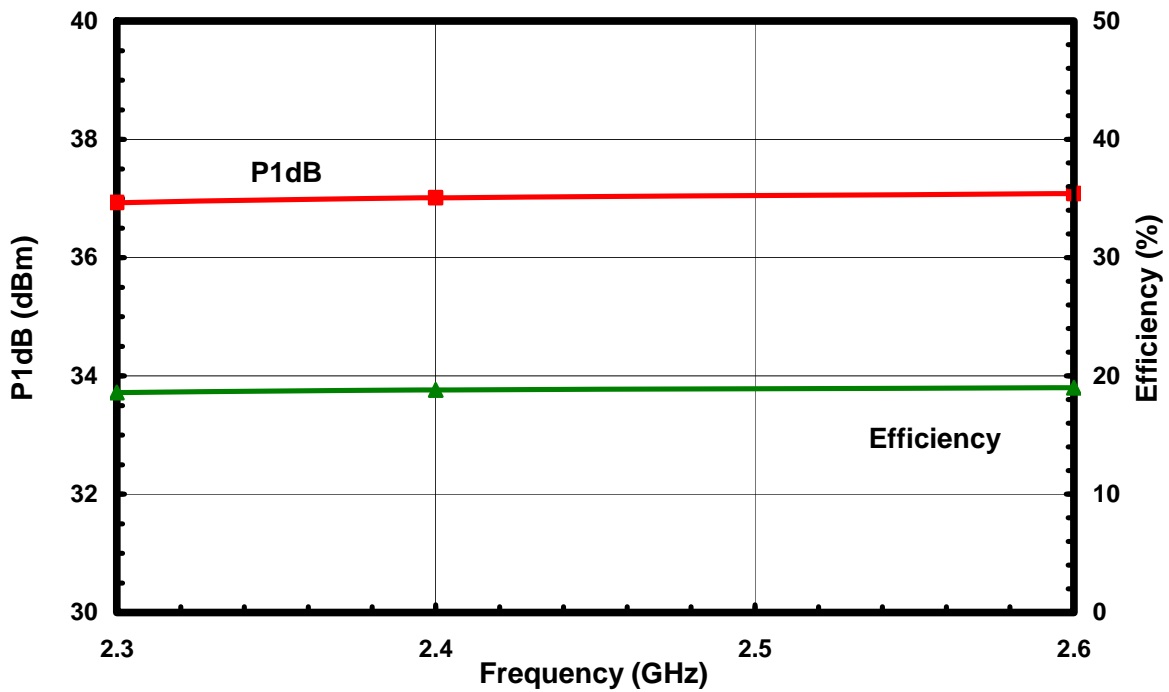


Figure 4: TX Chain Psat and efficiency (V_{dd} = +14V) versus frequency.

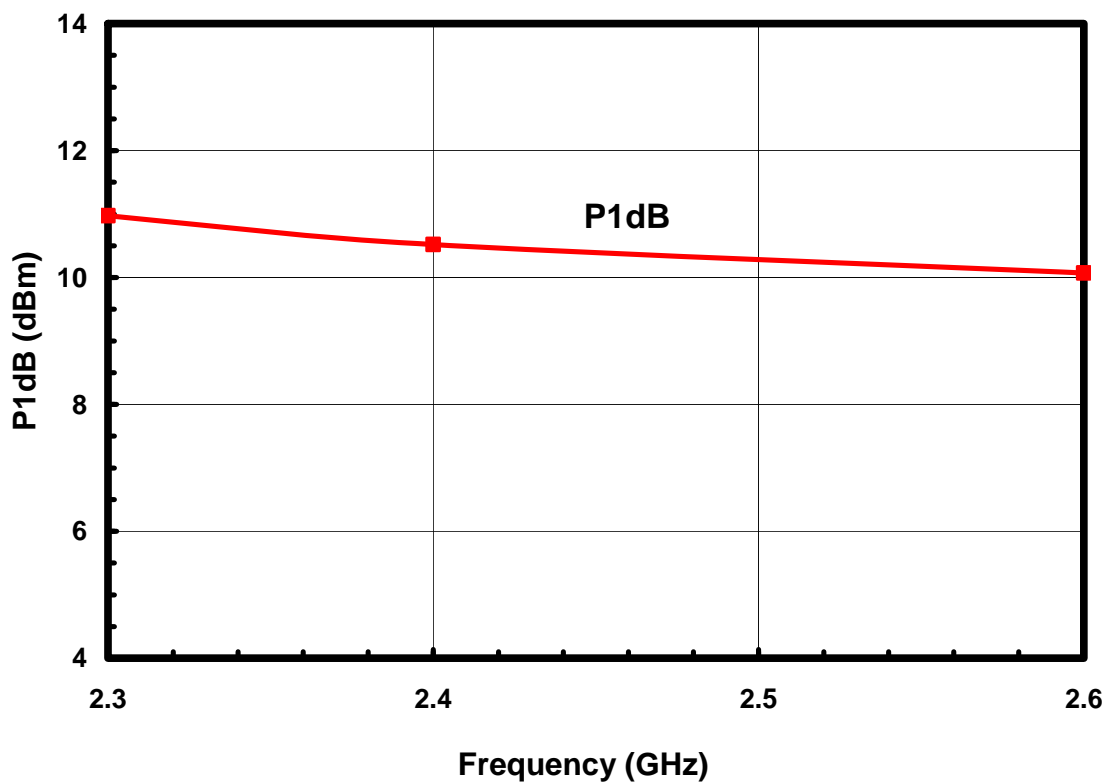


Figure 5: RX Chain P1dB versus frequency (dBm)

PACKAGE OUTLINE

Figure 6 is the photograph of the housing. Figure 7 shows the package outline. The dimension is 2.80”(L) x 3.00”(W) x 0.56”(H). The module needs a single +14V x 2A DC supply. It has SMA connectors for RF input and output, and DC pins for +14V and ground.

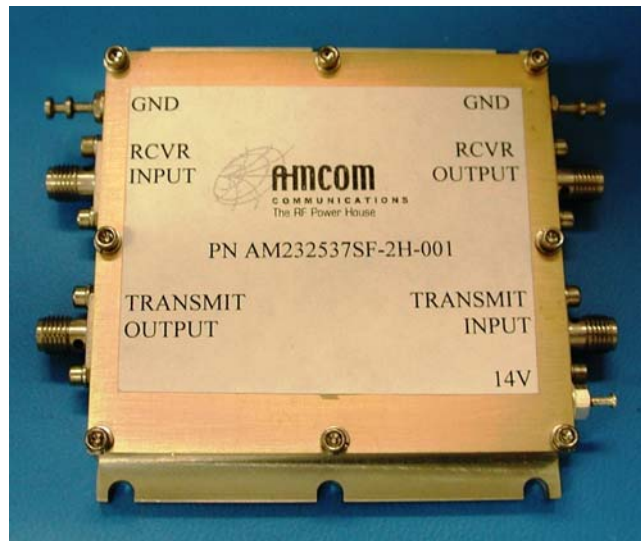


Figure 6: Photograph of PA Module

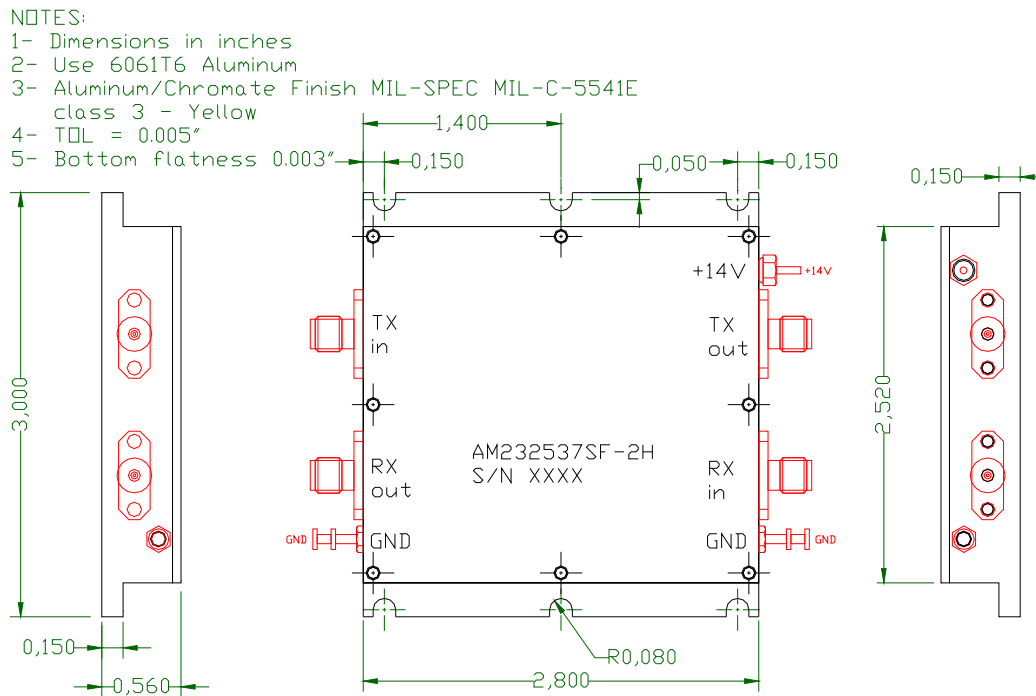


Figure 7: Outline of PA Module. 2.8”(L) x 3.0”(W) x 0.56”(H)