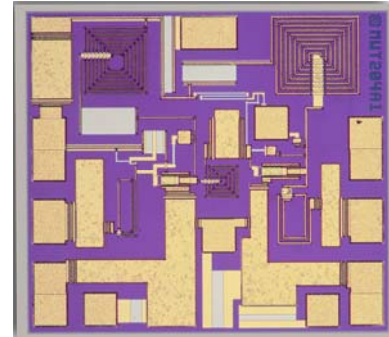


Features:

- Single Bias +6V with 80mA Operation Current
- Fully Matched Input/Output
- On-Chip Input/Output DC Blocking
- On-Chip DC Bias RF Choke and Bypass
- Gain: 15dB
- P1dB: 16dBm
- Small Size: 1.0 x 0.9 x 0.1 mm
- Reliable PHEMT Technology



Description:

The MMA-011015 is a 1 - 10GHz broadband medium power amplifier realized in advanced GaAs PHEMT technology. With on-chip input/output blocking capacitors and DC supply RF choke circuitry, it requires only three bonds for DC bias and RF-connections. It is unconditionally stable and directly cascadable with other stages. The MMA-011015 can be DC and RF tested and screened on-wafer to insure the performance.

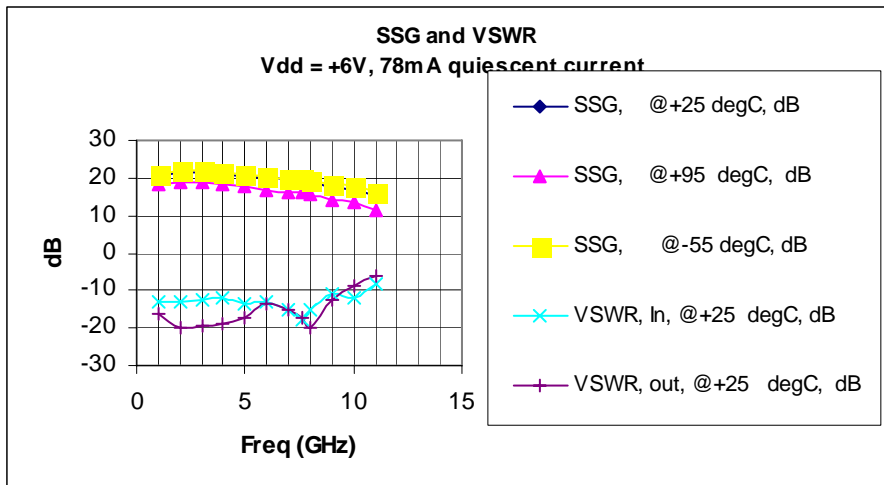
Electrical Specifications: ($V_{ds}=6.0V$, $T_A=25\text{ }^\circ\text{C}$)

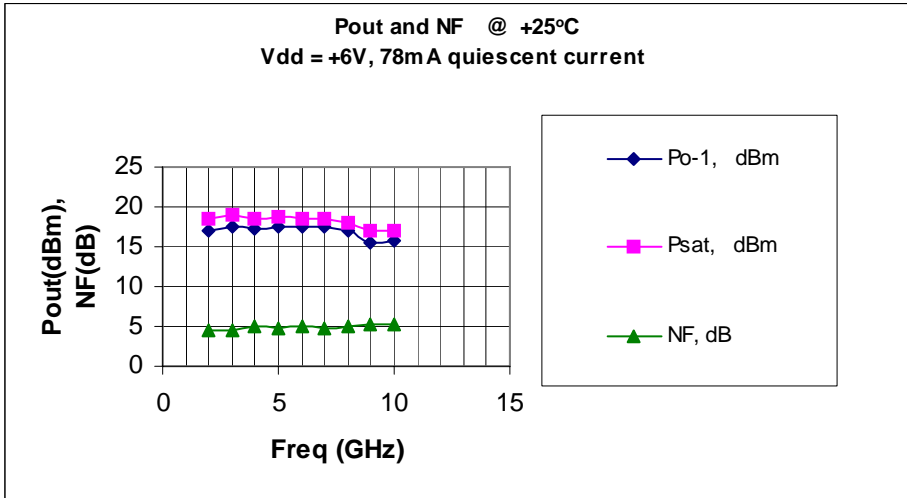
SYMBOL	Units	MIN	TYP	MAX
Frequency	GHz	1.0		10.0
Small Signal Gain	dB		15	
Gain Flatness	+/-dB		2.5	
Input Return Loss	dB		-12	
Output Return Loss	dB		-15	
Output P1dB	dBm		+16	
2 nd and 3 rd Harmonic (2-5GHz, at Po-1)	dBc		-23	
Reverse Isolation	dB		30	
Noise Figure	dB		4.5	
DC Current, quiescent	mA		75	
Thermal Resistance	$^\circ\text{C}/\text{W}$		105	

Absolute Maximum Ratings:

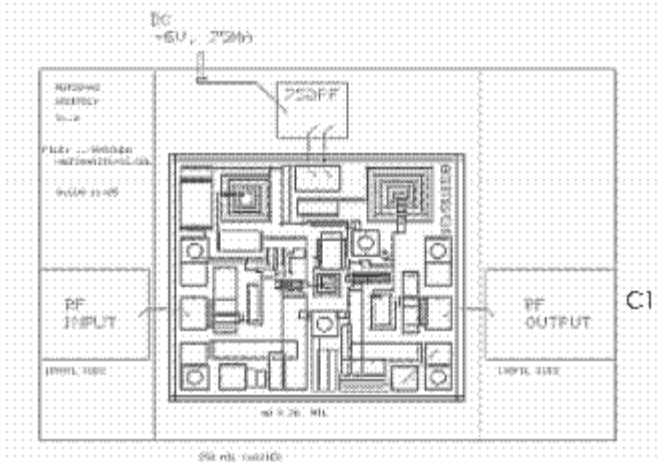
Parameter	Rating
Positive Supply Voltage	+8 V
Current	150 mA
Operating Temperature	-40°C to +85 °C
Channel Temperature	+175°C
Storage Temperature	-65°C to +175°C
Input Power	+15 dBm

Measured Data:





Bonding/Assembly Diagram:



Notes:

1. The MMA-011015 chip size is 1.0mm x 0.9mm.
2. Use 0.7-mil dia Au wire. The input/output bond pad sizes are: 3.54 mil x 4.7mil. The VDD DC bond pad size is: 3.54 mil x 6 mil. Two bond wires at VDD are recommended but one bond wire is acceptable.
3. The lower-right corner on-chip bond wire is removed.
4. Only one external component, a 750pF cap, is used. (C1)
5. Current product is in MMIC chip form.