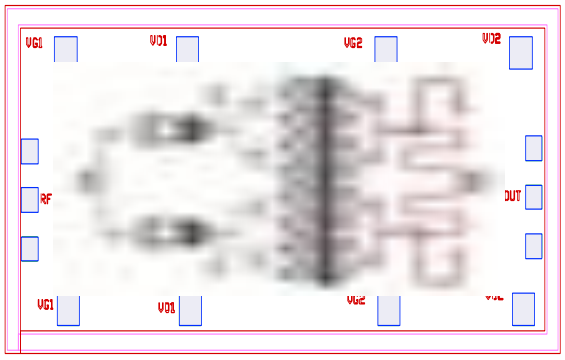
VRFA0025 - BD

X-Band 5W High Power Amplifier

www.viper-rf.com

Version 0.2

Advance Information



Key Features:

- Frequency Range: 8.5GHz - 11GHz
- 37dBm P1dB output power
- 28dB small signal Gain
- Size: 4mm X 2.2mm X 0.1mm

Description:

The VRFA0025-BD is a two-stage high power amplifier which operates within the frequency range of 8.5GHz to 11GHz manufactured on a 0.25 µm GaAs pHEMT process. The circuit demonstrates P1dB performance of 37dBm and exhibits a simulated Psat of 38dBm across the frequency band. Both stages of the amplifier are simulated to be unconditionally stable.

Electrical Specifications:

Parameter	Specification			Unit
	Max.	Typ.	Min.	
Frequency Bandwidth	8.5		11	GHz
Small Signal Gain		28		dB
Output power for 1dB Compression (P1dB)		37		dBm
Saturated Output Power (Psat)		38		dBm
I/P Return Loss		-10		dB
Power Added Efficiency (PAE)		40		%

Notes: Specifications are at 25ºC, V_{DD} = +8V @ 1.4A

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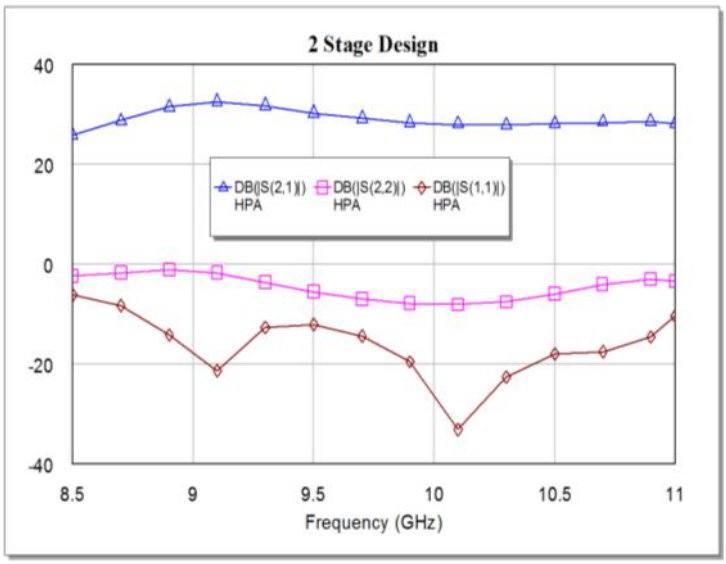
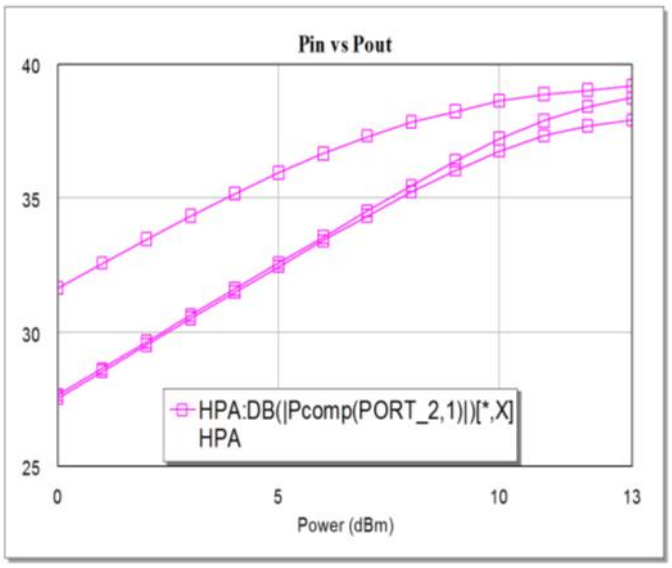
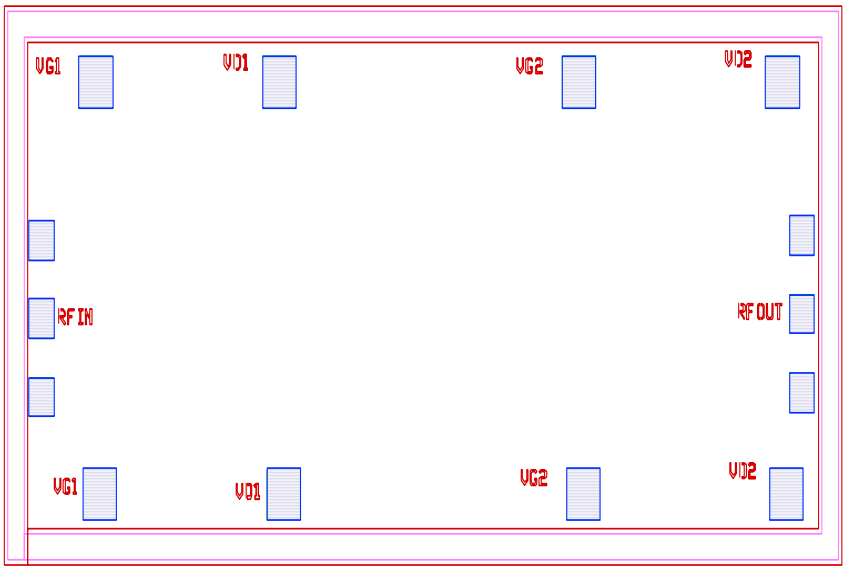
PERFORMANCE:

TA = 25°C, V_{DD} = +8V, I_{DD} = 1.4A





CHIP ASSEMBLY AND BONDING DIAGRAM:



DC pads: 100µm x 100µm