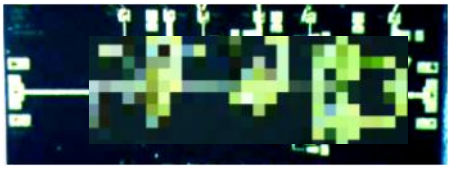
VRFA0045V1 - BD

Ka-Band 25dBm GaAs MMIC Driver Amplifier

Advance Product Information



Features

- Frequency Range: 25 to 27GHz
- P1dB Output Power > 25dBm CW
- Bias: Vd = 8V, Idq = 350mA
- Engineering Die Size: 3.9 x 5.94 x 0.1 mm
- Die size: 3.9 x 1.4 x 0.1 mm

Description

The VRFA0045V1-BD is a +25dBm CW GaAs MMIC amplifier which operates over the frequency range of 25GHz to 27GHz. The amplifier typically delivers a small signal gain of +25dB, output power P1dB of +25dBm. The VRFA0045V1-BD draws 350mA from a +8VDC supply. The RF ports are DC blocked and matched to 50Ω. Typical applications for the VRFA0045V1 include driver stages for Ka Band satcomms.

Electrical Specifications

T=+25°C baseplate, V_{DD} = +8V, Idq=0.35A

Parameter	Specification			Unit
	Max.	Typ.	Min.	
Frequency Bandwidth	25.5		27	GHz
Small Signal Gain		25		dB
P1dB Output Power		25		dBm
Return Loss		-8		dB

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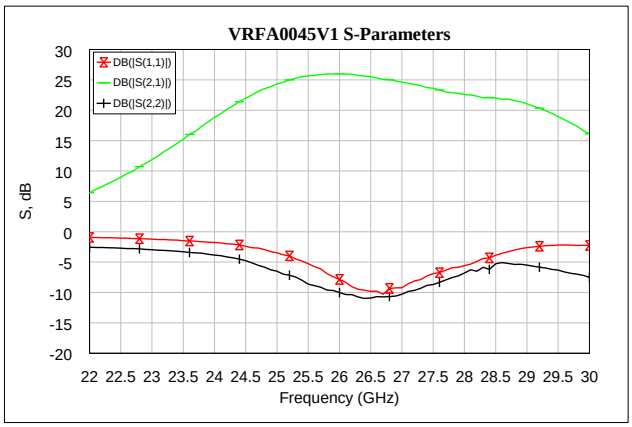
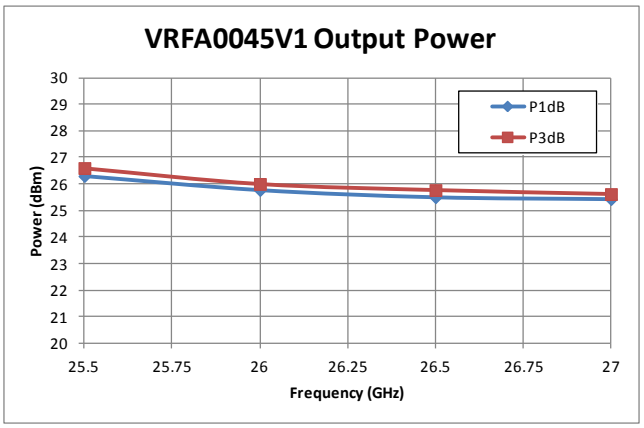
Measured Performance (on wafer)

T=+25°C baseplate, V_{DD} = +8V, Idq=0.35A





Recommended Absolute Maximum Ratings [1]

Parameter	Symbol	Value	Notes
Drain Bias Voltage	V_d	+10V	
Gate Bias Voltage	V_g	-5V	
Gate Current	I_g	5mA	
RF input power	RF_{in}	+5dBm	
Power Dissipation	P_d		Related to Junction Temperature
Junction Temperature	T_j	200°C	For maximum median device lifetime, T_j should be minimised
Storage Temperature	$T_{storage}$	-55 to 150°C	

[1] Operation outside these conditions may cause permanent damage to the device. Combination of maximum rating conditions may reduce the values. Device performance at these ratings is not implied.

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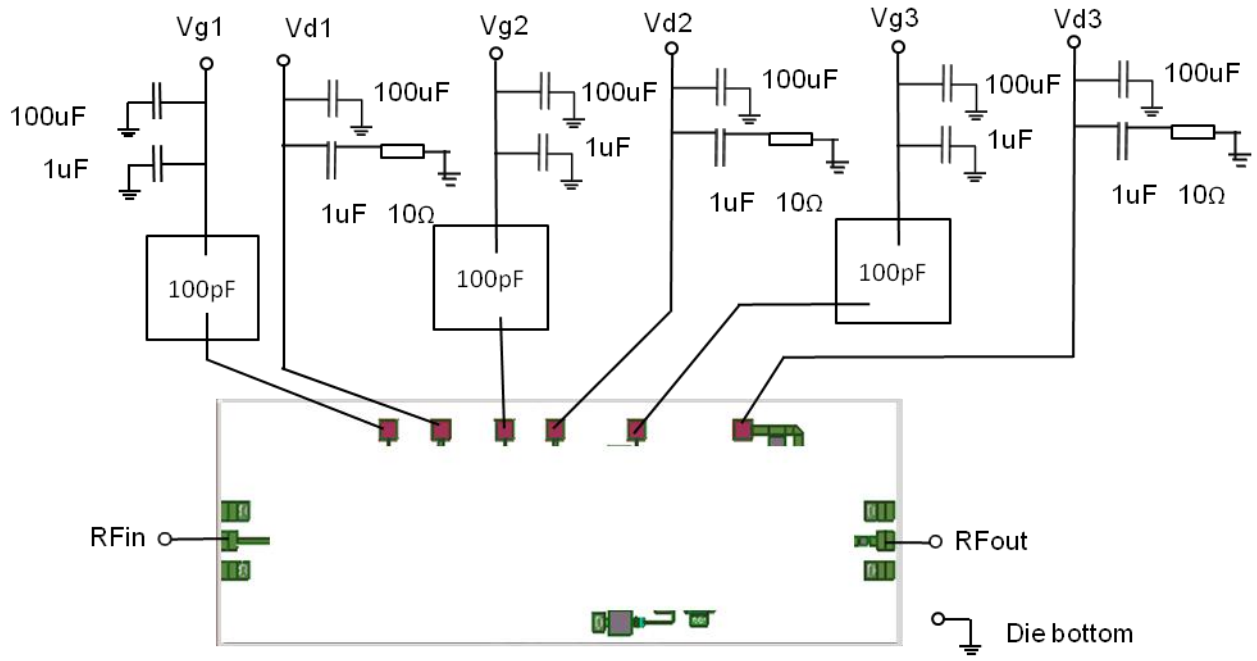
Assembly & Bonding Diagram



Die Size	3.9mm x 5.94mm
Die Thickness	100µm
Minimum Bondpad opening	70µm x 70µm

Minimal length (0.15nH) are recommended for RF bondwires. The RF input and output ports are DC blocked.

GaAs devices are ESD sensitive and precautions should be observed during storage, handling, assembly and testing.