



Preliminary RFS1000

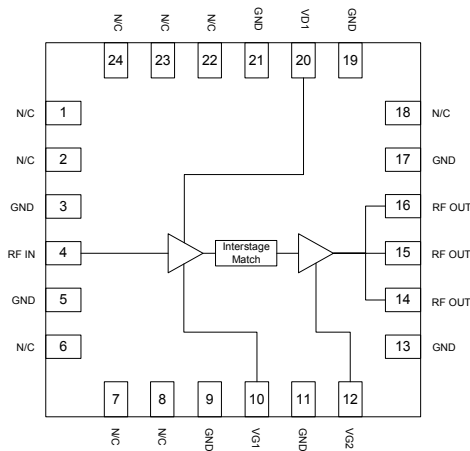
2.1-2.7 GHz Power Amplifier

Applications

- MDS/WCS/MMDS fixed-wireless equipment
- 2.4 GHz ISM Band Wireless Transmitter
- MMDS Video Transmitter

Product Description

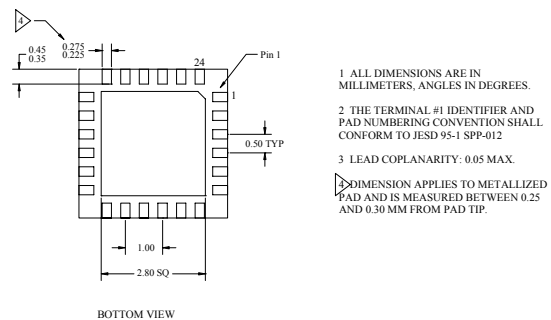
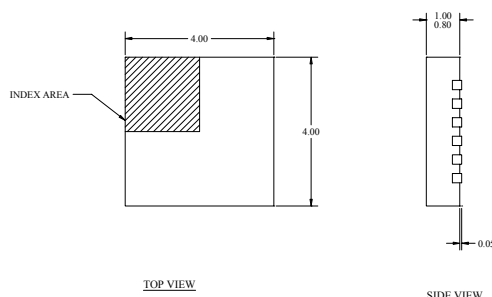
The RFS1000 power amplifier is a high-power, high-performance GaAs MESFET IC designed for use in transmit applications in the 2.1-2.7 GHz frequency band. With a P1dB of 31 dBm, the device is ideal as a final stage for wireless applications requiring high transmit linearity. The input of the PA is matched to 50 ohms and the output can be easily matched for optimum linearity and power performance at the desired frequency of operation between 2.1 and 2.7 GHz.



Product Features

- 31 dBm P1dB
- 18 dB gain
- Input matched to 50 ohms
- Simple output matching

Functional Block Diagram



4mm Package Outline

Parameter ¹	Specification			Unit	Condition
	Min.	Typ.	Max.		
Overall					
Frequency Range	2100		2700	MHz	
Output P1dB		31		dBm	
Efficiency at P1dB		37		%	
Small Signal Gain		18		dB	P _{IN} = -20dBm
Gain Flatness		±0.75		dB	Over 200 MHz Band
Harmonics					
2 nd Harmonic		-35		dBc	
3 rd Harmonic		-35		dBc	
Spurious (Stability) ²		-60		dBc/30 kHz	P _{IN} = -30 to +14 dBm
Reverse Isolation		50		dB	P _{IN} = -20 dBm
Noise Figure		6		dB	P _{IN} = -20 dBm
Input Impedance		50		Ω	P _{IN} = -20 dBm
Input Return Loss	10	14		dB	P _{IN} = -20 dBm
Output Return Loss		11		dB	P _{IN} = -20 dBm
Power Supply					
Drain Operating Voltage		7		V	
Gate Operating Voltage		-1.0		V	
Current Consumption		485		mA	
Gate Leakage Current		50		μA	

Note 1: Test Conditions: V_{DD}=7.0V, P_{IN}=+14dBm, Freq.=2593MHz, V_{GG}=-1.0 V, T=25C., unless otherwise specified.

Note 2: Load VSWR is set to 7:1 and the angle is varied 360 degrees.

Absolute Maximum Ratings

Parameter		Unit
DC Power Supply	8.0	V
DC Gate Voltage	-5.0 min, -0.5 max	V
Maximum RF Input Power	+20	dBm
Operating Ambient Temperature	-40 to +85	°C
Storage Temperature	-55 to +150	°C



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