

INS3037

700-2700MHz 100W Power Amplifier



Description

The Model INS3037 is a high power, class AB solid state amplifier which utilizes the latest GaN Technology to offer broadband performance from 700 to 2700MHz. Inspower's ISO9001 quality management system assure consistent performance and highest reliability.

Product Features

- 50 Ω RF impedance, Fully Integrated Matching
- 100W Output
- Single Supply Operation : Nominally 28V
- Built-in monitoring functions
- High reliability and ruggedness

Electrical Specifications @ +28.0VDC, 25°C, 50 Ω System

Symbol	Parameter	Unit	Min.	Typ.	Max.
BW	Operating Frequency	MHz	700		2700
P _{SAT}	Power Output Saturated	Watt	100	120	
P _{1dB}	Power Output P1dB	Watt		50	
G _{1dB}	Power Gain	dB	50		
P _{IN}	Input Power for Rated P _{SAT}	dBm		0	3
Δ G _{SS}	Small Signal Gain Flatness	dB			\pm 3.0
Δ G _P	Power Gain Flatness	dB			\pm 2.0
S11	Input Return Loss	dB			-10
IP ₃	Third Order Intercept Point 2-Tone@37dBm/Tone, 1MHz Spacing	dBm		+50	
H	Harmonics @Pout=100W	dB		-25	
Spur	Spurious Signal	dBc		-70	-60
V _{DC}	Operation Voltage	Volt	26.0	28.0	30.0
I _{DD}	Current Consumption @Pout=100W	Amp		11.5	14
I _{DQ}	Quiescent Current	Amp		2.5	3.0
I _{SO}	Current Consumption @Shutdown	mA			200
T _{ON/OFF}	Switching Time	uSec		2	5

Mechanical Specification

Parameters	Value	Limit	Unit
Dimension (W × D × H)	185 * 90 * 22	-	mm
RF Connector Input/output	SMA Female	-	-
DC Interface Connector	D-Sub 9pin Male	-	-
Weight	700	Max	gram
Cooling	External Heat-sink	-	-

Environmental Characteristics

Parameters	Specifications	Remark
Operating Case Temperature Range	-40°C to +80°C	
Storage Temperature	-40°C to +85°C	
Relative Humidity non-condensing	95%	

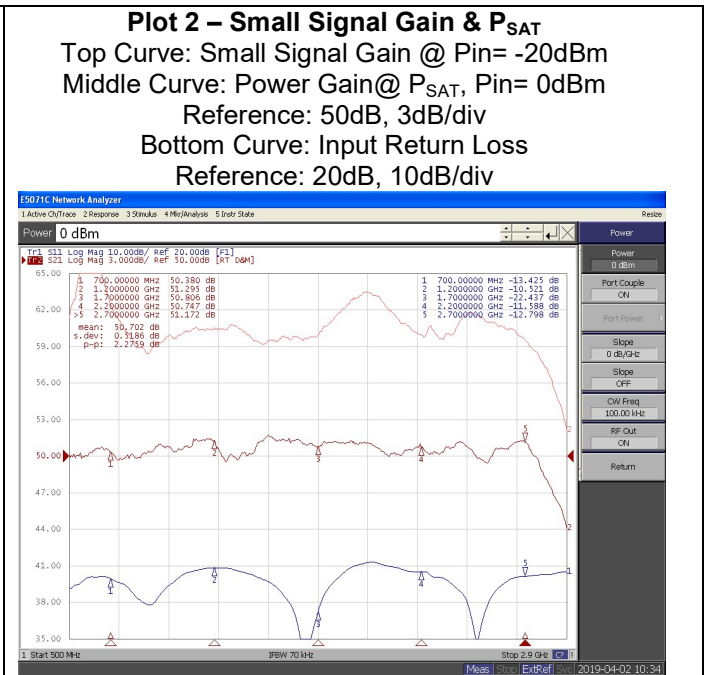
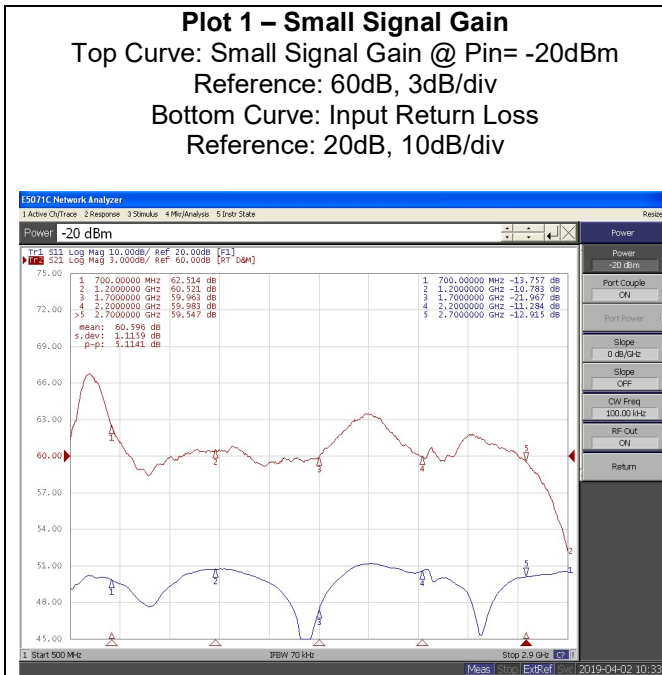
Protection

Item	Specifications for Activation	Remark
Input Overdrive	+10dBm Max	
Load VSWR	∞ : 1	
Thermal Degradation	85°C Min	

I/O Interface (D-sub 9pin Male)

Pin No	Pin Description	Specifications	Remark
1	NC	Not Connected	
2	Current Monitor	Analog Voltage Relative to IDD @ 25mV/100mA	
3	Temp Monitor	Vout=10mV/°C×Temp+500mV	
4	NC	Not Connected	
5	Shutdown	Enable : TTL "0" or Open Disable: TTL "1" = 3.3-5V	
6	VDD	+28VDC	
7	VDD	+28VDC	
8	GND	Ground	
9	GND	Ground	

Typical Characteristics @ +28VDC, 25°C



Frequency	700	1200	1700	2200	2700	MHz
Psat	127	130	118	107	111	Watts
Small Signal Gain	62.5	60.5	59.9	59.9	59.5	dB
IP3 @ 37dBm/Tone, 1MHz Spacing	54.7	53.3	52.8	53.8	55.7	dBm
2nd Harmonic @ Po=100W	-36.8	-25.6	-48.5	-47	-35.3	dBc
Current @ Po=100W	12.8	11.1	10.1	11.4	10.7	A
PAE @ Po=100W	27.9	32.2	35.4	31.3	33.4	%

