

# INS3012

800-2170MHz 12W Power Amplifier

## Description

The Model INS3012 is designed for broadband or band specific applications. This high power, class AB solid state amplifier utilizes GaN power devices to offer excellent efficiency and broadband characteristics from 800 to 2170MHz. Inspower's ISO9001 quality management system assure consistent performance and highest reliability.

## Product Features

- 50Ω RF impedance, Fully Integrated Matching
- Solid-state class AB linear design
- 12W Output at Psat
- Single Supply Operation : Nominally 28V
- Balanced Design
- High reliability and ruggedness



## Electrical Specifications

Symbol	Parameter	Unit	Min.	Typ.	Max.
BW	Frequency of Operation	MHz	800		2170
Psat	Power Output @ Psat, CW	Watt	12	15	
P <sub>1dB</sub>	Power Output @ 1dB Gain Compression Point	Watt	10	5	
G <sub>1dB</sub>	Power Gain	dB	41	42	
P <sub>IN</sub>	Input Power for Rated P <sub>SAT</sub>	dBm		0	3
ΔG <sub>SS</sub>	Small Signal Gain Flatness	dB			±1.5
OIP3	Third Order Intercept Point @ 2-Tone@31dBm/Tone, 1MHz Spacing	dBm		45	
S11	Input Return Loss	dB			-10
Spur	Spurious Signal	dBc		-70	-60
H	Harmonics @ 12Watt	dBc		-20	
VDC	Operation Voltage	V	26	28	30
I <sub>DD</sub>	Current Consumption @Pout=12W	A			2.5
I <sub>DQ</sub>	Quiescent Current	A		1.0	
T <sub>ON/OFF</sub>	Switching Time	uSec		2	5

### Mechanical Specifications

Parameters	Value	Unit
Dimensions (W x D x H)	170 * 70 * 22	mm
RF Connector Input/output	SMA Female	
DC & I/O Connector	D-Sub 9Pin Male	
Weight	0.5	Kg

### Environmental Characteristics

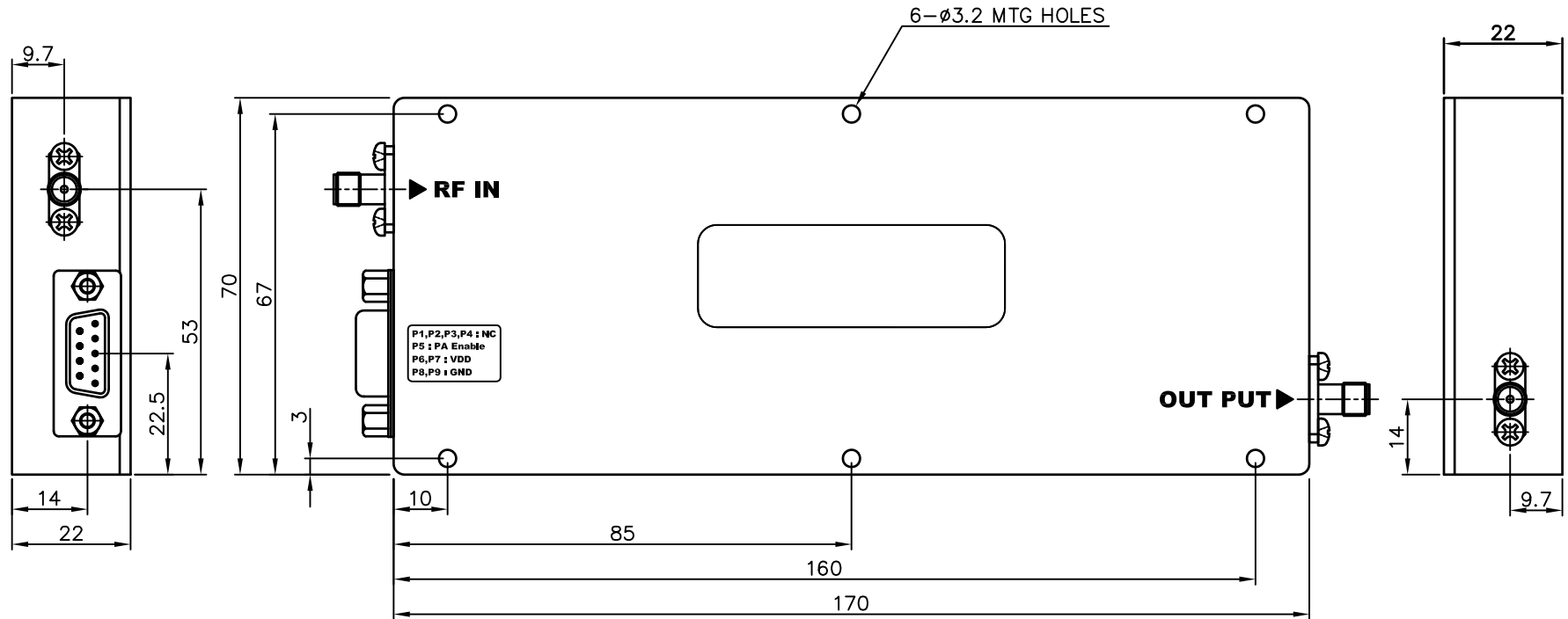
Parameters	Specifications	Remark
Operating Case Temperature	-40°C to +80°C	
Storage Temperature Range	-40°C to +85°C	
Operating Humidity	95% Non-Condensing	

### Protection

Item	Specifications for Activation	Remark
Input Overdrive	+10dBm Max	
Load VSWR	$\infty$ : 1	

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

Pin No	Pin Description	Specifications
1	N/C	Not Connected
2	N/C	Not Connected
3	N/C	Not Connected
4	N/C	Not Connected
5	PA Enable	Enable : TTL "0" or Open Disable: TTL "1" = 3.3-5V
6	VDD	+28V
7	VDD	+28V
8	GND	GND
9	GND	GND



**RoHS**  
Compliant

APPROVED	MATERIAL	A6061		PART NAME		OUTSIDE DRAWING	
	FINISH	☆ White-CHROMATE(Cr <sup>3+</sup> )		DWG NO.		SHEET 1 OF 1	
CHECKED	THIRD ANGLE PROJECTION		SIZE	UNIT:	SCALE: CAD=1/1	Q'TY:	
			A3	mm	PLOT=N/S		
DESIGNED	MODEL/TITLE						
	INS3012						