

### Description

The Model INS2112 is designed for band specific application. This high power, class AB solid state amplifier utilizes the latest GaN power devices to offer excellent efficiency and high power performance from 1200 to 1400MHz. Inspower's ISO9001 quality management system assures consistent performance and highest reliability.

### Product Features

- 50Ω RF impedance, Fully Integrated Matching
- 150W Minimum Saturated Output Power
- Single Supply Operation: Nominally 28V
- Output VSWR Protection, High Temp Protection
- High reliability and ruggedness

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

Symbol	Parameter	Unit	Min.	Typ.	Max.
BW	Operating Frequency	MHz	1200		1400
P <sub>SAT</sub>	Power Output Saturated	Watt	150		
P <sub>1dB</sub>	Power Output P1dB	Watt		80	
G <sub>1dB</sub>	Power Gain	dB	50	52	
P <sub>IN</sub>	Input Power for Rated P <sub>SAT</sub>	dBm		0	3
ΔG <sub>SS</sub>	Small Signal Gain Flatness	dB			±2.0
ΔG <sub>P</sub>	Power Gain Flatness	dB			±1.0
S <sub>11</sub>	Input Return Loss	dB			-10
IMD	Third Order Intermodulation Distortion 2-Tone@44dBm/Tone, 2MHz Spacing	dBc		-25	
H	Harmonics @Pout=150W	dBc		-50	-45
Spur	Spurious Signal	dBc		-70	-60
V <sub>DC</sub>	Operation Voltage	Volt	26.0	28.0	30.0
I <sub>DD</sub>	Current Consumption @Pout=150W <i>(Design Target 14A Max)</i>	Amp		14	16
I <sub>DQ</sub>	Quiescent Current	Amp		1.5	2
I <sub>SQ</sub>	Current Consumption @Shutdown	mA			200
T <sub>ON/OFF</sub>	Switching Time	uSec		2	5

### Mechanical Specification

Parameters	Value	Limit	Unit
Dimension (W × D × H)	230 * 95 * 26.8	-	mm
RF Connector Input/output	SMA Female / N Female	-	-
DC Interface Connector	D Sub Hybrid 7W2 @ Male, 4-40 Screw	-	-
Weight	1	Max	Kg
Cooling	External Heat-sink	-	-

### Environmental Characteristics

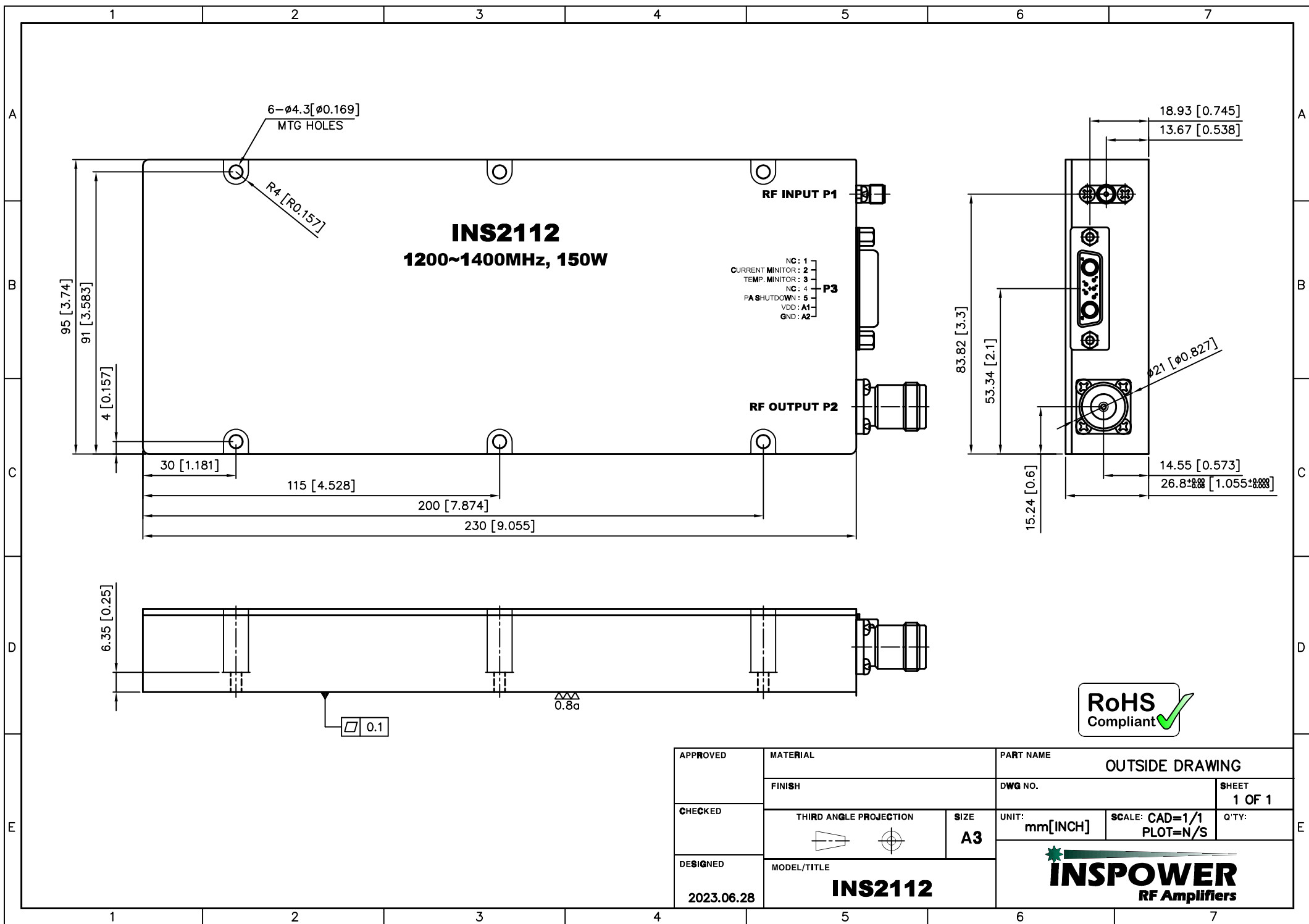
Parameters	Specifications	Remark
Operating Case Temperature Range	-40°C to +80°C	
Storage Temperature	-40°C to +85°C	
Relative Humidity non-condensing	95%	

### Protection

Item	Specifications for Activation	Specifications for Recovery
Input RF drive level without damage	+5dBm Max	
VSWR Protection	Isolator included (Max. 200W), VSWR = inf	
VSWR Shutdown	3:1 Max (R. L= 6dB)	
VSWR Shutdown Threshold	Threshold 45dBm min	
Thermal Overload	+90 °C ±5 °C Shutdown	+70 °C ±5 °C Auto-recover

### DC/ Interface (D-sub, Hybrid 7W2, Male)

Pin No	Pin Description	Specifications
1	NC	Not Connected
2	Current Monitor	Analog Voltage Relative to IDD @ 10mV/100mA
3	Temp Monitor	Vout=10mV/°C×Temp+500mV
4	GND	Ground
5	PA Shutdown	TDD Fast Switching (RF Enabled State: 0V or Open, Disabled State: 3.3V TTL)
A1	VDD	+28VDC
A2	GND	Ground



APPROVED	MATERIAL	PART NAME		
	FINISH	OUTSIDE DRAWING		SHEET
CHECKED	THIRD ANGLE PROJECTION	SIZE	UNIT:	SCALE: CAD=1/1
		A3	mm[INCH]	PLOT=N/S
DESIGNED	MODEL/TITLE		QTY:	
2023.06.28	INS2112		1 OF 1	