INS2205

5700-5900MHz 150W Power Amplifier

INSPOWER
RF Amplifiers

Description

The Model INS2205 is designed for band-specific applications. This high-power, solid-state amplifier utilizes GaN power devices to offer excellent efficiency and linearity characteristics from 5700 to 5900MHz. Inspower's ISO9001 quality management system assures consistent performance and the highest reliability.

Product Features

- 50Ω RF Impedance, Fully Integrated Matching
- 150W Minimum Saturated Output Power
- Single Supply Operation: Nominally 28Vdc
- Output VSWR Protection, High Temp Protection
- High Reliability and Rugged Design

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

Symbol	Parameter	Unit	Min.	Typ.	Max.
BW	Frequency of Operation	MHz	5700		5900
P_{SAT}	Power Output Saturated	Watt	150	160	
P_{1dB}	Power Output P1dB	Watt		70	
G_P	Power Gain @ Pin=0dBm	dB	52		
G_{SS}	Small Signal Gain @ Pin=-20dBm	dB	55	57	
P_{IN}	Input Power for Rated Psat	dBm		0	3
ΔG_{SS}	Small Signal Gain Flatness	dB			±2.0
ΔG_P	Power Gain Flatness	dB			±1.0
S11	Input VSWR	--			1.5:1
ΔG_{TEMP}	Gain variation with temperature	dB		±1.0	
IMD	Third Order Intermodulation Distortion 2- Tone@ 42dBm/Tone, 1MHz Spacing	dBc		-20	-15
H	Harmonics @ Pout=150W	dBc		-55	-50
Spur	Spurious Signal	dBc		-70	-60
V_{DC}	Operation Voltage	Volt	26	28	30
I_{DQ}	Quiescent Current	Amp		4	5
I_{DD}	Current Consumption @ Pout=150W	Amp		20	25

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Mechanical Specifications

Parameters	Value	Unit
Dimensions (W x D x H)	190 x 155 x 28	mm
RF Connector Input/output	SMA Female/ N-Type Female	-
DC Interface Connector	D-Sub Hybrid 7W2@ Male, 4-40 Screw	-
Weight	1.7	Kg

Environmental Characteristics

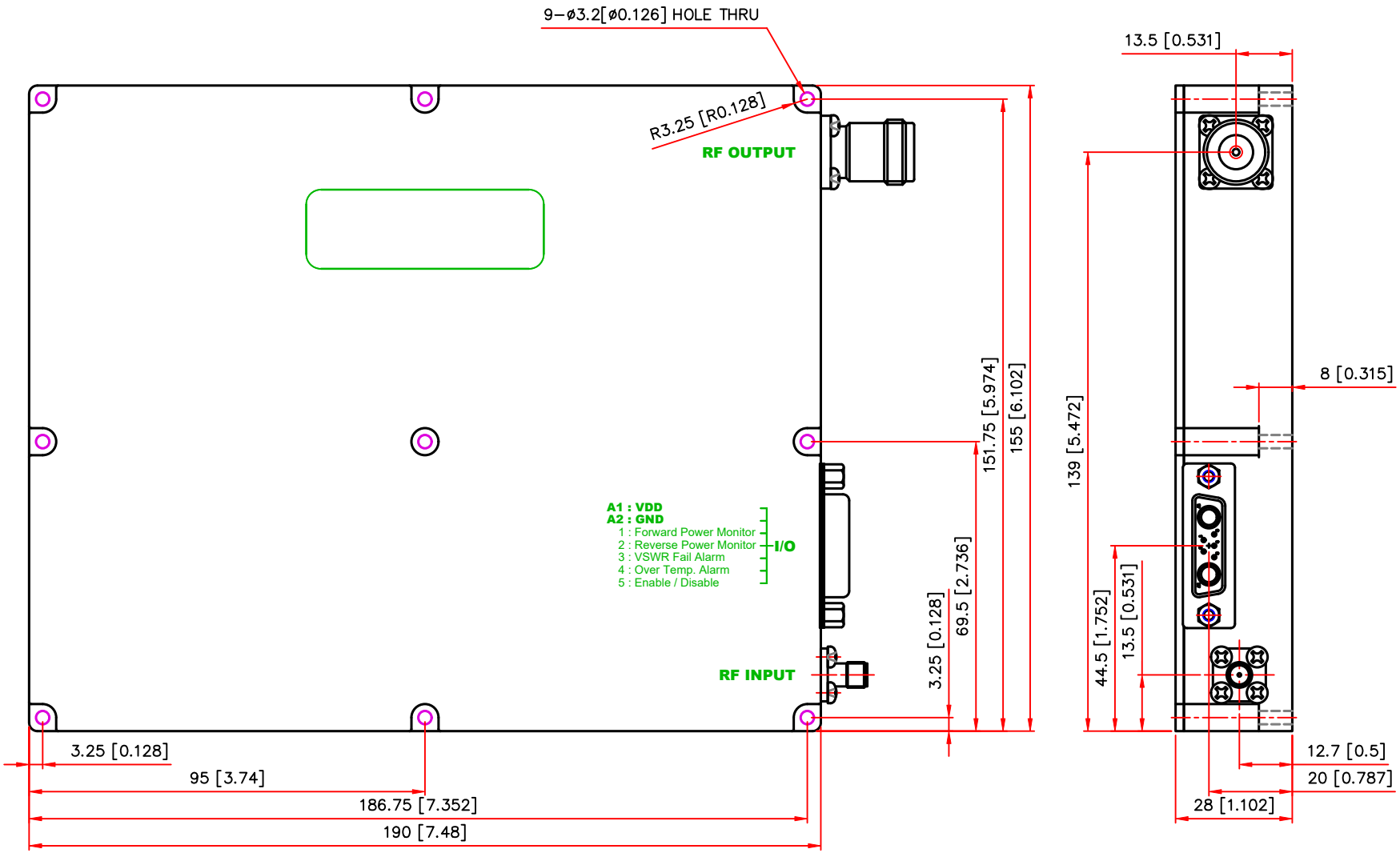
Parameters	Specifications	Remark
Operating Case Temperature Range	-30°C to +80°C	
Storage Temperature Range	-40°C to +85°C	
Operating Humidity	95% non-condensing	
Cooling	External Heat-Sink	

Protection

Item	Specifications	Remark
Input Overdrive Level	+5dBm Max	
VSWR Shutdown	3:1 Max (Return Loss=6 dB)	
VSWR Shutdown Threshold	47dBm min	
Thermal Overload	+95 °C ±5 °C Shutdown, +75 °C ±5 °C Auto-recover	

I/O Interface (D-sub, Hybrid 7W2, Male)

Pin No	Pin Description	Specifications
1	Forward Power Monitor	RMS Detector. Vout=2.0V±0.05V@52dBm, Slope: 50mV/dB
2	Reverse Power Monitor	RMS Detector. Vout=2.0V±0.05V@52dBm, Slope: 50mV/dB
3	VSWR Fail Alarm	High +5V TTL Output when VSWR reached 3:1
4	Over Temp. Alarm	High +5V TTL Output @Case Temperature 95°C±5.0 Auto Restart @ Case Temperature 75°C±5.0
5	Enable/Disable	Enable: Active Low (GND) Disable: High +5V or Open status *Pulled-up @ 5V with 10k ohm
A1	VDD	+28VDC
A2	GND	Ground



RoHS Compliant

APPROVED	MATERIAL	PART NAME: OUTSIDE DRAWING C1	
	FINISH	DWG NO.	SHEET: 1 OF 1
CHECKED	THIRD ANGLE PROJECTION	SIZE: A3	UNIT: mm[inch] / SCALE: CAD=1/1 PLOT=N/S / Q'TY:
DESIGNED: S.K.KIM 2025.11.23	MODEL/TITLE: INS2205 5700~5900MHz, 150W	INSPOWER RF Amplifiers	