

INS3148

500-2700MHz 100W Broadband GaN Power Amplifier

Description

The Model INS3148 is a high power, class AB solid state amplifier which utilizes the latest GaN Technology to offer broadband performance from 500 to 2700MHz. Inpower's ISO9001 quality management system assures consistent performance and highest reliability.

Product Features

- 50Ω 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, 50Ω System

Symbol	Parameter	Unit	Min.	Typ.	Max.
BW	Operating Frequency	MHz	500		2700
P _{SAT}	Power Output Saturated	Watt	90	100	
P _{1dB}	Power Output P1dB	Watt		50	
G _{1dB}	Power Gain	dB	50		
P _{IN}	Input Power for Rated P _{SAT}	dBm			0
ΔG _{SS}	Small Signal Gain Flatness @ P _{IN} = -20dBm	dB			±3.0
ΔG _P	Power Gain Flatness	dB			±2.0
S ₁₁	Input Return Loss	dB			-10
IP ₃	Third Order Intercept Point 2-Tone@37dBm/Tone, 1MHz Spacing	dBm		+50	
H	Harmonics @ P _{out} = 90W	dB		-20	
Spur	Spurious Signal	dBc		-70	-60
V _{DC}	Operation Voltage	Volt	26.0	28.0	30.0
I _{DD}	Current Consumption @ P _{out} = 90W	Amp		11.5	14
I _{DQ}	Quiescent Current	Amp		3.0	3.5
I _{SQ}	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 * 27	-	mm
RF Connector Input/output	SMA Female	-	-
DC Interface Connector	D-Sub 9pin Male	-	-
Weight	900	Max	gram
Cooling	External Heat-sink	-	-

Environmental Characteristics

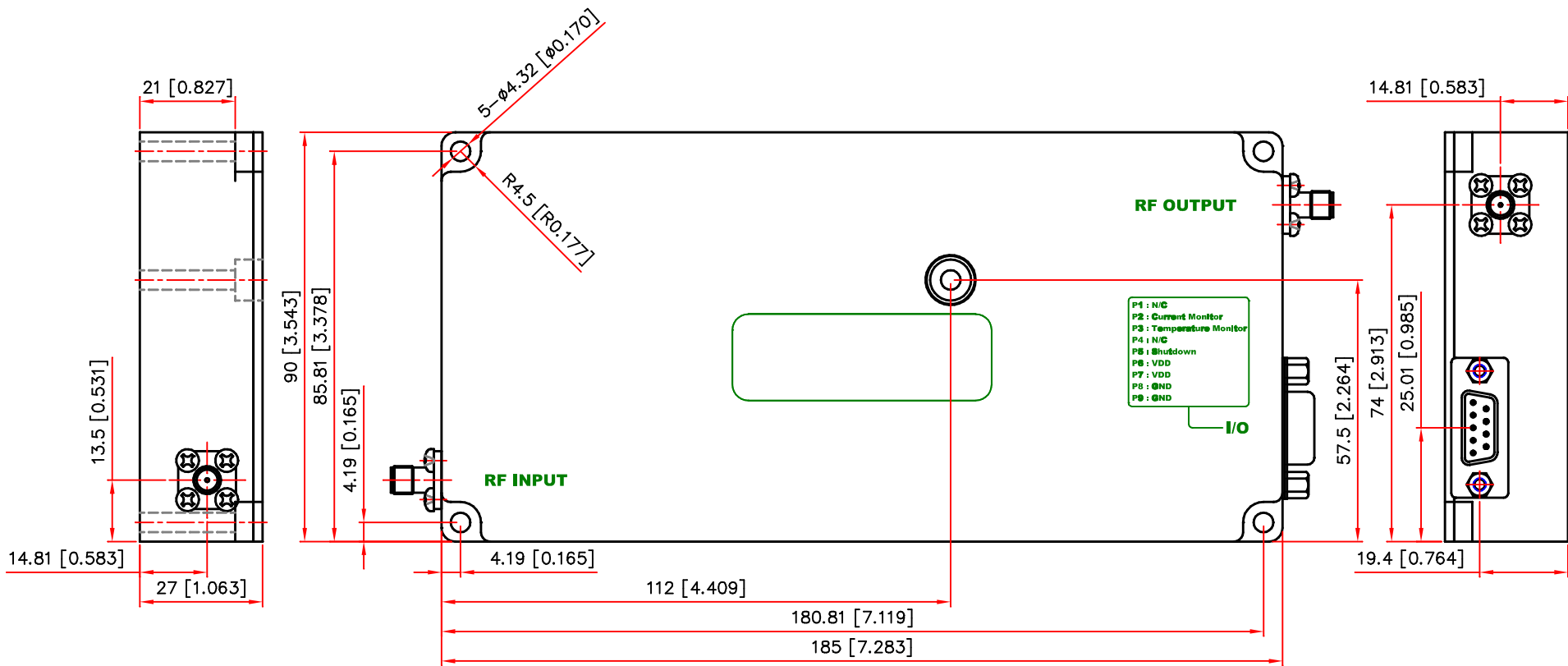
Parameters	Specifications	Remark
Operating Case Temperature Range	-40°C to +80°C	
Storage Temperature	-40°C to +85°C	
Relative Humidity non-condensing	95%	

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
2	Current Monitor	Analog Voltage Relative to IDD @ 25mV/100mA	
3	Temp Monitor	$V_{out}=10mV/^{\circ}C \times Temp+500mV$	
5	Shutdown	Enable: TTL "0" or Open Disable: TTL "1" = 3.3-5V	
1, 6, 7	VDD	+28VDC	
4, 8, 9	GND	Ground	



APPROVED	MATERIAL	PART NAME		
	FINISH	OUTSIDE DRAWING		
CHECKED	THIRD ANGLE PROJECTION 	SIZE	UNIT:	SCALE
		A3	mm	CAD=1/1 PLOT=N/S
DESIGNED	MODEL/TITLE	SHEET		
S.K.KIM 2024.04.22	INS3148	1 OF 1		
		Q'TY: 1EA/SET		