

INS3008

500-2500MHz 100W Power Amplifier

INSPower
RF Amplifiers

Description

The Model INS3008 is a high power, class AB solid state amplifier which utilizes the latest GaN Technology to offer broadband performance from 500 to 2500MHz. Inpower's ISO9001 quality management system assure 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		2500
P _{SAT}	Power Output Saturated	Watt	100		
P _{1dB}	Power Output P1dB	Watt		50	
G _{1dB}	Power Gain	dB	50		
P _{IN}	Input Power for Rated P _{SAT}	dBm		0	3
ΔG _{SS}	Small Signal Gain Flatness	dB			±4.0
ΔG _P	Power Gain Flatness	dB			±3.0
S11	Input Return Loss	dB			-10
IP ₃	Third Order Intercept Point 2-Tone@37dBm/Tone, 1MHz Spacing	dBm		+50	
H	Harmonics @Pout=100W	dBc		-20	
Spur	Spurious Signal	dBc		-70	-60
V _{DC}	Operation Voltage	Volt	26.0	28.0	30.0
I _{DD}	Current Consumption @Pout=100W	Amp		10	14
I _{DQ}	Quiescent Current	Amp			4.0
I _{SQ}	Current Consumption @Shutdown	mA			300
T _{ON/OFF}	Switching Time	uSec		2	5

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Specification Ver 1.0 2018-01-15

Mechanical Specification

Parameters	Value	Limit	Unit
Dimension (W × D × H)	200 * 140 * 27	-	mm
RF Connector Input/output	SMA Female	-	-
DC Interface Connector	D-Sub 9pin Male	-	-
Weight	1	Max	Kg
Cooling	External Heat-sink	-	-

Environmental Characteristics

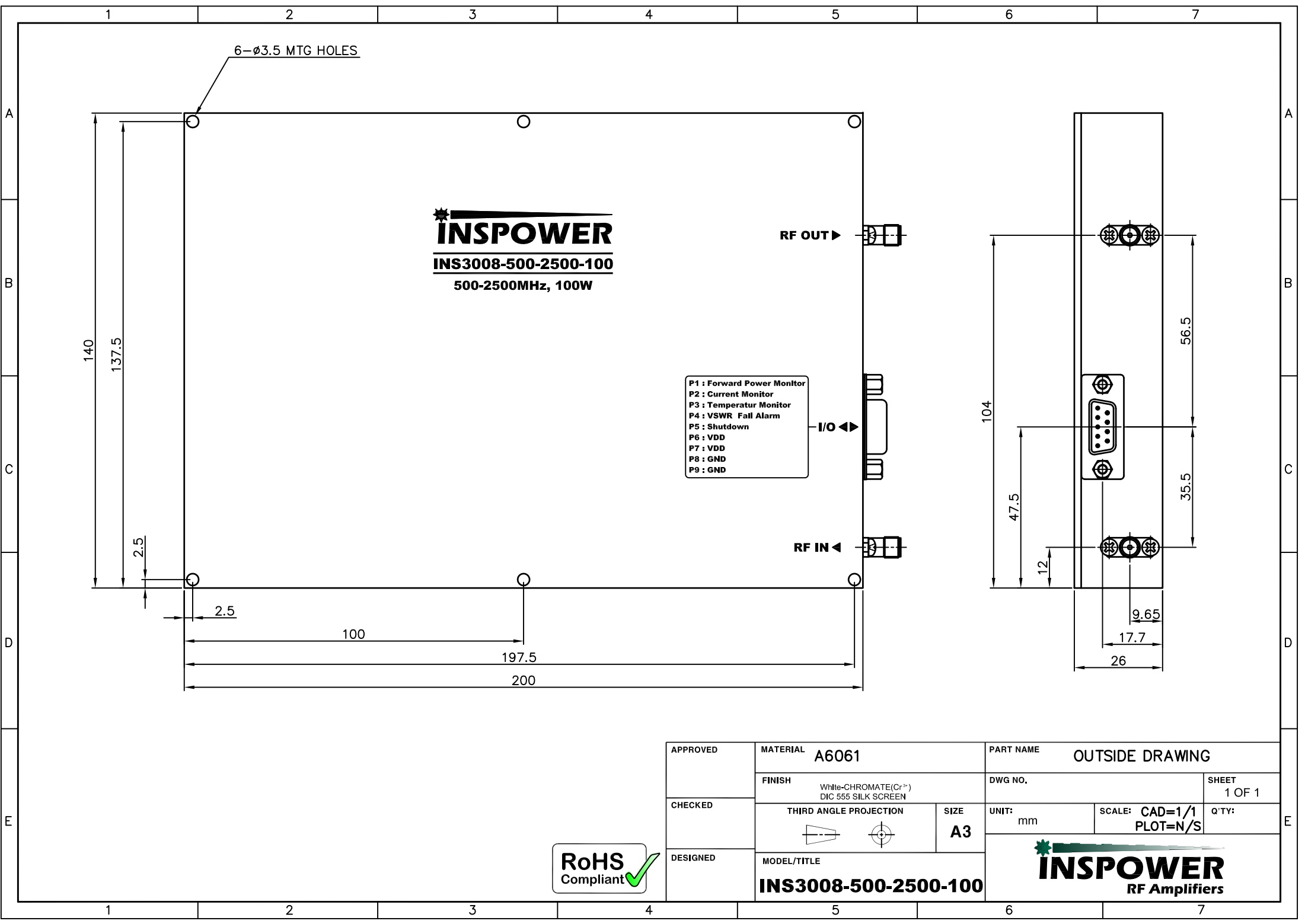
Parameters	Specifications	Remark
Operating Case Temperature Range	-40°C to +80°C	
Storage Temperature	-40°C to +85°C	
Relative Humidity non-condensing	95%	

Protection

Item	Specifications for Activation	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	Forward Power Monitor	RMS Detector Vout=2V±0.05V@50dBm, Slope: 50mV/dB	
2	Current Monitor	Analog Voltage Relative to IDD @ 25mV/100mA	
3	Temp Monitor	Vout=10mV/°C×Temp+500mV	
4	VSWR Fail Alarm	TTL high when VSWR reached 10:1	
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	



INSPower
INS3008-500-2500-100
 500-2500MHz, 100W

- P1 : Forward Power Monitor
- P2 : Current Monitor
- P3 : Temperatur Monitor
- P4 : VSWR Fail Alarm
- P5 : Shutdown
- P6 : VDD
- P7 : VDD
- P8 : GND
- P9 : GND

APPROVED	MATERIAL	A6061		PART NAME		OUTSIDE DRAWING	
	FINISH	White-CHROMATE(Cr ³⁺) DIC 555 SILK SCREEN		DWG NO.	SHEET 1 OF 1		
CHECKED	THIRD ANGLE PROJECTION		SIZE	UNIT:	SCALE:	Q'TY:	
			A3	mm	CAD=1/1 PLOT=N/S		
DESIGNED	MODEL/TITLE			 INSPower RF Amplifiers			
	INS3008-500-2500-100						

