

INS3135

500-2500MHz 160W Power Amplifier

Description

The Model INS3135 is a high power, class AB solid state amplifier which utilizes the latest GaN Technology to offer broadband performance from 500 to 2500MHz. Inspower's ISO9001 quality management system assures consistent performance and highest reliability.

Product Features

- 50Ω RF impedance, Fully Integrated Matching
- 160W Output
- Single Supply Operation: Nominally 28V
- Built-in monitoring functions
- High reliability and ruggedness

Electrical Specifications @ +36.0VDC, 25°C, 50Ω System

Symbol	Parameter	Unit	Min.	Typ.	Max.
BW	Operating Frequency	MHz	500		2500
P _{SAT}	Power Output Saturated	Watt	160		
P _{1dB}	Power Output P1dB	Watt		80	
G _{1dB}	Power Gain	dB	52		
P _{IN}	Input Power for Rated P _{SAT}	dBm		0	3
ΔG _{SS}	Small Signal Gain Flatness	dB			±2.0
ΔG _P	Power Gain Flatness	dB			± 1.0
S11	Input Return Loss	dB			-10
IP ₃	Third Order Intercept Point 2-Tone@40dBm/Tone, 1MHz Spacing	dBm		+55	
H	Harmonics @Pout=160W	dB		-25	
Spur	Spurious Signal	dBc		-70	-60
V _{DC}	Operation Voltage	Volt	28.0	36.0	38.0
I _{DD}	Current Consumption @Pout=160W	Amp		14	16
I _{DQ}	Quiescent Current	Amp		2.5	3
I _{sq}	Current Consumption @Shutdown	mA			200
T _{ON/OFF}	Switching Time	uSec		2	5

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Mechanical Specification

Parameters	Value	Limit	Unit
Dimension (W × D × H)	185 * 100 * 27	-	mm
RF Connector Input/output	SMA Female / N-Type Female	-	-
DC Interface Connector	D-Sub 7W2 Male (5+2 Power)	-	-
Weight	1	Max	Kg
Cooling	External Heat-sink	-	-

Environmental Characteristics

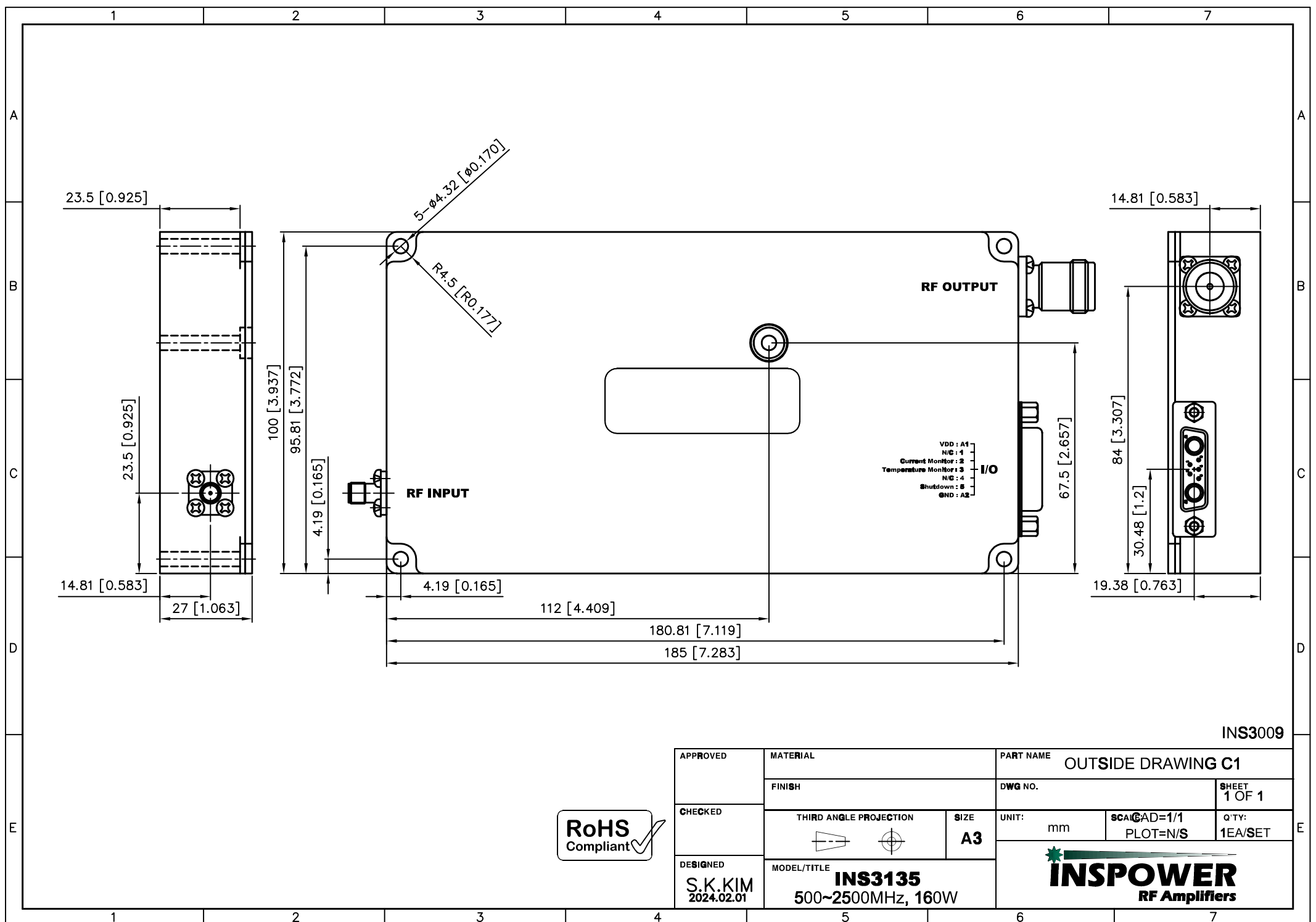
Parameters	Specifications	Remark
Operating Case Temperature Range	-40°C to +80°C	
Storage Temperature	-40°C to +85°C	
Relative Humidity non-condensing	95%	

Protection

Item	Specifications for Activation	Remark
Input Overdrive	+10dBm	
Load VSWR	∞: @ all load phase \$ amplitude for duration of 1 minute 3:1@ all phase and amplitude continuous	
Thermal Degradation	85°C Min	

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

Pin No	Pin Description	Specifications	Remark
A1	VDD	+36VDC	
A2	GND	Ground	
1	N/C	Not Connected	
2	Current Monitor	Analog Voltage Relative to IDD @ 10mV/100mA	
3	Temp. Monitor	Vout=10mV/°C×Temp+500mV	
4	N/C	Not Connected	
5	Shutdown	Enable: TTL "0" = 0V or Open Disable: TTL/CMOS"1" = 3.3-5V	



INS3009



APPROVED	MATERIAL		PART NAME			OUTSIDE DRAWING C1	
	FINISH		DWG NO.		SHEET 1 OF 1		
CHECKED	THIRD ANGLE PROJECTION		SIZE	UNIT:	mm	SCALE: 1/1	Q'TY:
			A3			PLOT=N/S	1EA/SET
DESIGNED	MODEL/TITLE						
S.K.KIM 2024.02.01	INS3135 500~2500MHz, 160W						