

Description

The Model INS3179 is a high power, class AB solid state amplifier which utilizes the latest GaN Technology to offer broadband performance from 2000 to 6000MHz. Inspower's ISO9001 quality management system assures consistent performance and highest reliability.

Product Features

- 50Ω RF impedance, Fully Integrated Matching
- 50W 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	2000		6000
P _{SAT}	Power Output Saturated	Watt	50	65	
P _{1dB}	Power Output P1dB	Watt		25	
G _{1dB}	Power Gain	dB	47	49	
P _{IN}	Input Power for Rated P _{SAT}	dBm		0	
ΔG _{SS}	Small Signal Gain Flatness	dB			±9.0
ΔG _P	Power Gain Flatness	dB		±1.0	±2.0
S11	Input Return Loss	dB			-10
IP3	Third Order Intercept Point 2-Tone@37dBm/Tone, 1MHz Spacing	dBm		+52	
H	Harmonics @ Pout=50W	dB		-25	
Spur	Spurious Signal	dBc		-70	-60
V _{DC}	Operation Voltage	Volt	26.0	28.0	30.0
I _{DD}	Current Consumption @ Pout=50W	Amp		8	10
I _{DQ}	Quiescent Current	Amp		2.0	3.0
T _{ON/OFF}	Switching Time	uSec			5

Mechanical Specification

Parameters	Value	Limit	Unit
Dimension (L × W × H)	185(W) * 90(D) * 27(H)	-	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	-30°C to +80°C	
Storage Temperature	-40°C to +85°C	
Relative Humidity non-condensing	95%	

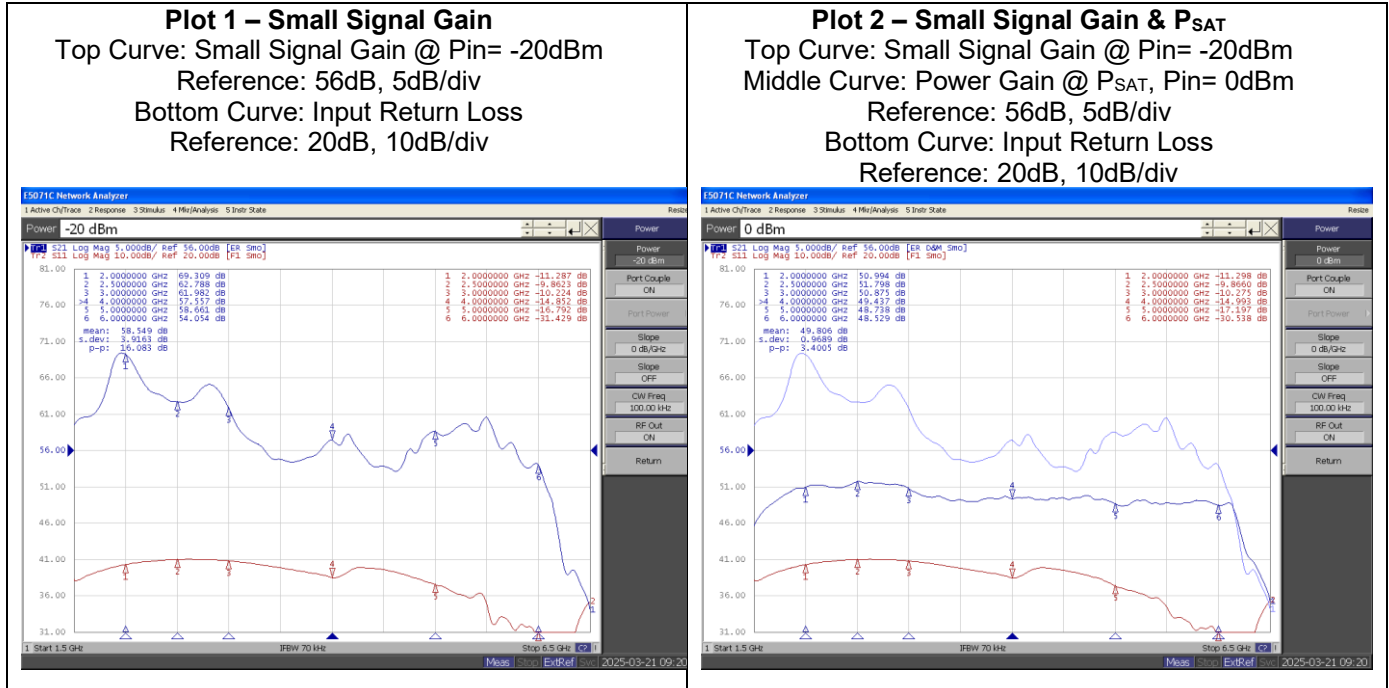
Protection

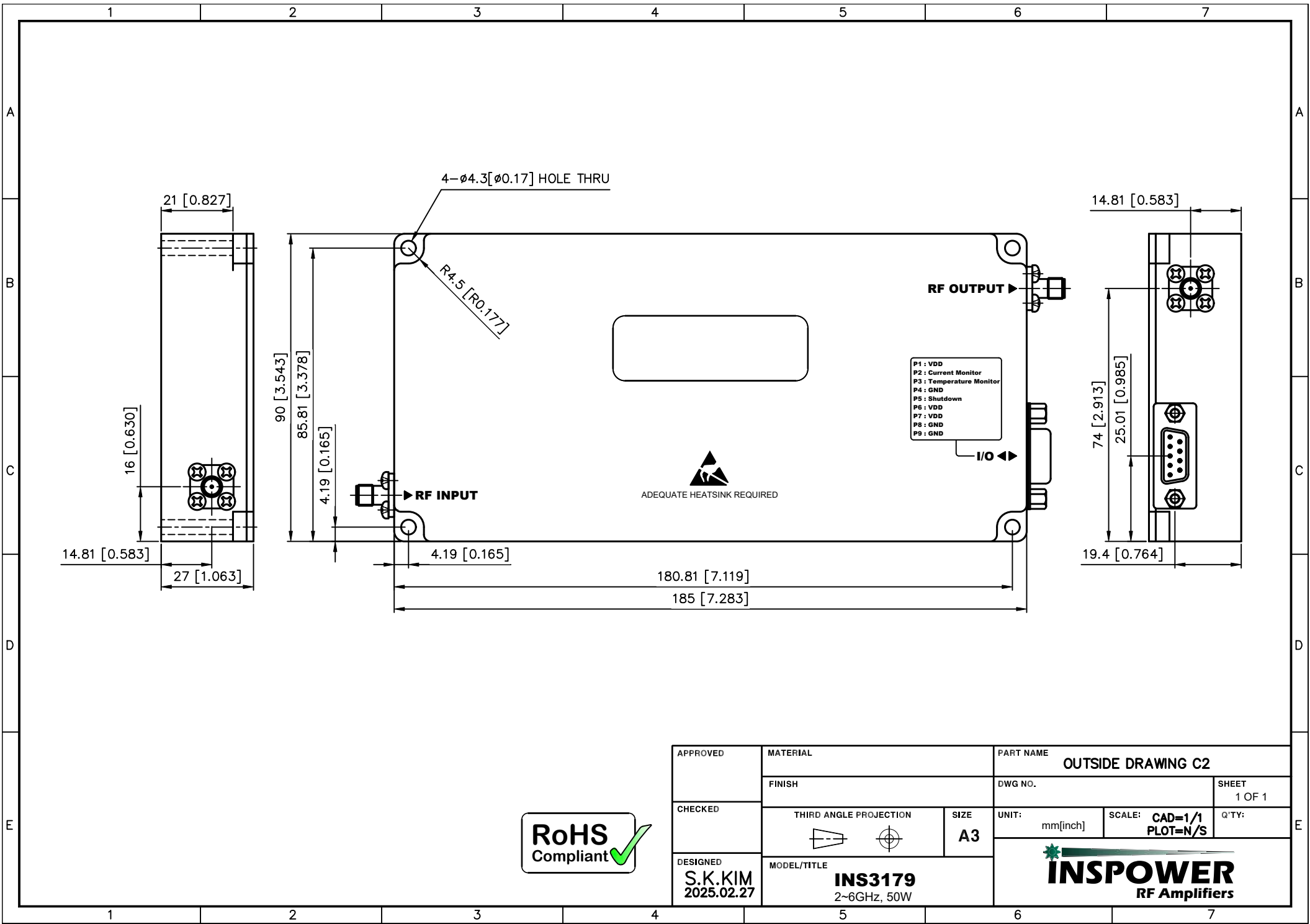
Item	Specifications for Activation	Remark
Input Overdrive	+10dBm Max	
Load VSWR @ POUT = 35W	∞ :1	
Thermal Gain Degradation	85°C Min	

I/O Interface (D-sub 9pin Male)

Pin No	Pin Description	Specifications	Remark
1	VDD	+28VDC	
2	Current Monitor	Analog Voltage Relative to IDD @ 25mV/100mA	
3	Temperature Monitor	Vout=10mV/°C×Temp+500mV	
4	GND	Ground	
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	

Typical Characteristics @ +28VDC, 25°C





APPROVED	MATERIAL		PART NAME	
	FINISH		OUTSIDE DRAWING C2	
CHECKED	THIRD ANGLE PROJECTION		DWG NO.	SHEET
	SIZE		UNIT:	1 OF 1
DESIGNED	MODEL/TITLE		SCALE: CAD=1/1	Q'TY:
	INS3179		PLOT=N/S	
2025.02.27		INSPOWER		
		RF Amplifiers		
		2~6GHz, 50W		