

# Amplifier

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**Model**    **MPA-020060S50**    **Rev.A**

2-6GHz Solid State Power Amplifier

-Frequency range: 2-6GHz

-Psat:  $\geq 50\text{dBm}$ , Gain:  $\geq 50\text{dB}$

-Built-in control, monitoring and protection circuits

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## ◆ Product Description

The MPA-020060S50 is a 2-6GHz, saturated power  $\geq 50\text{dBm}$  high gain solid state power amplifier with state-of-art GaN design technology. It has higher saturated output power while keeping higher P1dB and better linearity, and can adapt to a variety of different signal modes such as continuous wave, pulse, wide instantaneous bandwidth signal, high-order modulation signal and etc. It is designed for applications, such as 5G, LTE, WIFI, EMC testing and etc.

## ◆ Function

- Amplifying signal within 2-6GHz
- Over-VSWR, over-heating, over-current, over-voltage protection functions

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## ◆ Electrical Specifications

Frequency Range	GHz		2-6
Saturated Output Power	dBm	Typ./Min.	50/49@ Pin=0dBm
P1dB	dBm	Typ./Min.	48/45
Gain	dB	Typ./Min.	50/49@ Pin=0dBm
Gain Flatness	dB	Typ.	±1.3@ Pin=0dBm
Small Signal Gain	dB	Typ.	55@ Pin=-30dBm
Small Signal Gain Flatness	dB	Typ.	±2.5@ Pin=-30dBm
Isolation@ Disable Status	dB	Typ.	90
Input Power	dBm	Typ.	0
2 <sup>nd</sup> Harmonic Suppression	dBc	Typ./Max.	-20/-12@ Pout=49dBm
3 <sup>rd</sup> Harmonic Suppression	dBc	Typ./Max.	-20/-15@ Pout=49dBm
Spurious Suppression	dBc	Typ./Max.	-70/-65@ Pout=49dBm
Input VSWR	:1	Typ./Max.	1.5/2
Switching Time	us	Typ.	2@ 1kHz TTL, Pin=0dBm
Supply Voltage	V	Typ.	28
Power Consumption	W	Typ.	400@ Pin=0dBm

## ◆ Limits

Input Power	Pin≤10dBm (Input RF level without damage)
Load VSWR	VSWR≤3:1 (Pout=49dBm)
	Power off (VSWR≥5:1 and Pout≥39dBm)
Supply Voltage	Power off (Supply Voltage≥32V or Supply Voltage≤24V)
Supply Current	Power off (Supply Current≥32A)
Thermal Degradation	75°C

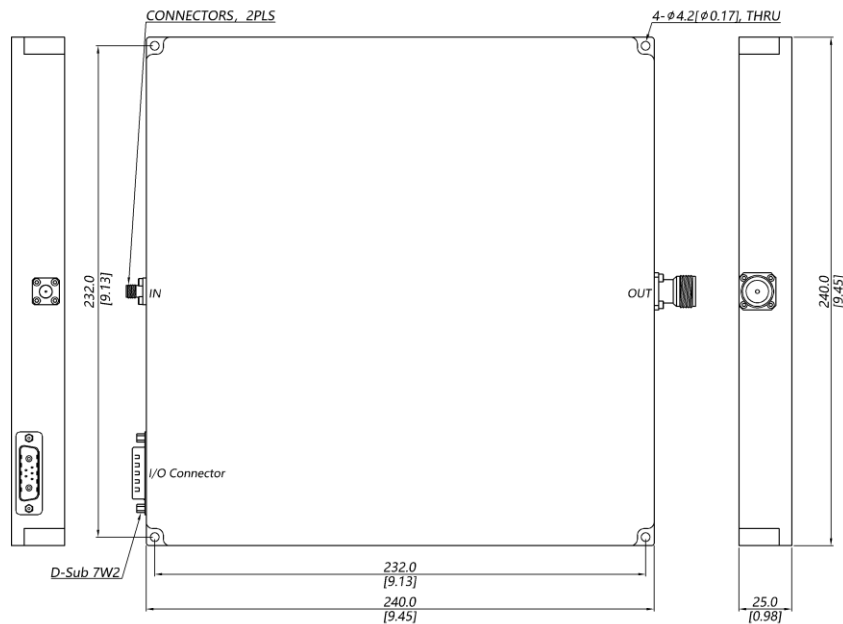
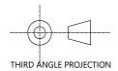
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## ◆ Mechanical Specifications

RF Input Connector	SMA [F]
RF Output Connector	TYPE N [F]
Power supply Connector	D-Sub 7W2 [M]
Control Connector	D-Sub 7W2 [M]
Dimension	mm 240x240x25(LxWxH) (tolerance: ±0.5)
Weight	g Max. 4000
Finishing	Alloy iridite
Temperature	Operating: -10°C~+55°C; Storage: -40°C ~ +75°C
Heat Dissipation <sup>1</sup>	External heat dissipation
Environmental <sup>2</sup>	N/A

- Note: 1. Select heat dissipation conditions based on product temperature.  
 2. Ititude, vibration and shock are designed with considerations, but without tests and experiments.

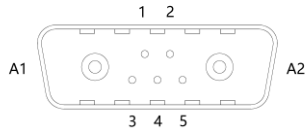
## ◆ Outline Drawing



# Amplifier

## ◆ Interface Connector Pin Out

### D-Sub 7W2



A1.	GND	Ground
A2.	VDD	28 VDC
1.	Current Sensor	Analog voltage relative to IDD @ 100 mV per Ampere
2.	Temperature Sensor	Analog voltage relative to Module's Temperature @ 10 mV/°C
3.	Enable	Amplifier Disable: TTL Logic High (3.3 V), Internally pull down
4.	GND	Ground
5.	N/C	No Connection