Amplifier

Model MPA-010060S47 Rev.B

1-6GHz Solid State Power Amplifier

-Frequency range: 1-6GHz -Psat: ≥47dBm, Gain: ≥47dB

-Built-in control, monitoring and protection circuits

Product Description

The MPA-010060S47 is a 1-6GHz, saturated power ≥47dBm 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 1-6GHz
- Over-VSWR, over-heating, over-current, over-voltage protection functions

Amplifier

Electrical Specifications

Frequency Range	GHz		1-6
Saturated Output Power	dBm	Typ./Min.	49/47@ Pin=-3dBm
P1dB	dBm	Typ./Min.	43/40
Gain	dB	Typ./Min.	49/47@ Pin=-3dBm
Gain Flatness	dB	Typ.	±2@ Pin=-3dBm
Small Signal Gain	dB	Typ.	64@ Pin=-30dBm
Small Signal Gain Flatness	dB	Typ.	±2@ Pin=-30dBm
Isolation@ Disable Status	dB	Typ.	90
Input Power	dBm	Typ.	-3
2nd Harmonic Suppression	dBc	Typ./Max.	-20/-12@ Pout=47dBm
3rd Harmonic Suppression	dBc	Typ./Max.	-20/-12@ Pout=47dBm
Spurious Suppression	dBc	Typ./Max.	-70/-60@ Pout=47dBm
Input VSWR	:1	Typ./Max.	1.5/2
Switching Time	us	Typ.	2@ 1kHz TTL，Pin=-3dBm
Supply Voltage	V	Typ.	28
Power Consumption	W	Max.	300@ Pin=-3dBm

Limits

Input Power	Pin≤10dBm (Input RF level without damage)
Load VSWR	VSWR≤3:1 (Pout=47dBm)
Supply Voltage	Power off (Supply Voltage≥32V or Supply Voltage≤24V)
Supply Current	Power off (Supply Current≥24A)
Thermal Degradation	75℃

Amplifier

Mechanical Specifications

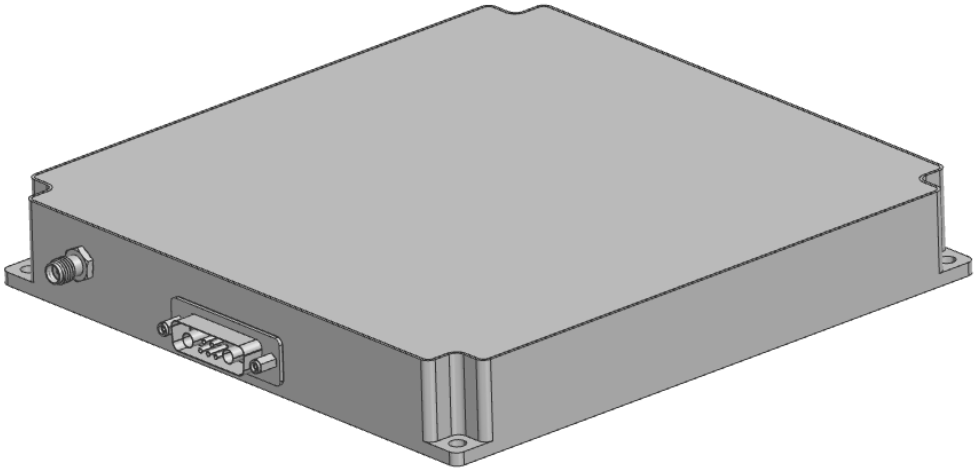
RF Input Connector			SMA [F]
RF Output Connector			SMA [F]
Power supply Connector			D-Sub 7W2 [M]
Control Connector			D-Sub 7W2 [M]
Dimension	mm		170.0x165.0x25.0(LxWxH) (tolerance: ±0.5)
Weight	g	Max.	1500
Finishing			Alloy iridite
Temperature			Operating: -10℃~+55℃; Storage: -40℃~+75℃
Heat Dissipation [1]			External heat dissipation
Environmental [2]			N/A

Note: 1. Select heat dissipation conditions based on product temperature.

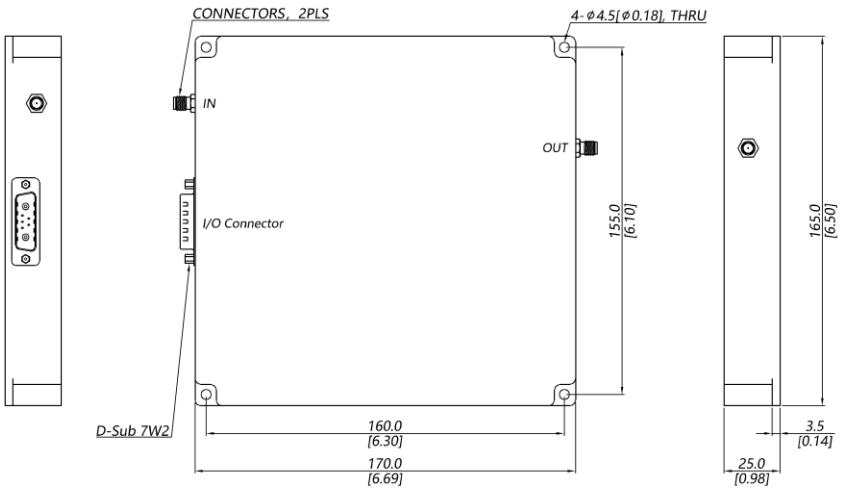
2. ltitude, vibration and shock are designed with considerations, but without tests and experiments.

Amplifier

3D Outline Drawing

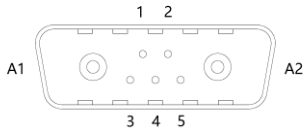


2D Outline Drawing



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

Amplifier

Typical Graph