Amplifier

Model MPA-180400S37 Rev.A

18-40GHz Solid State Power Amplifier

-Frequency range: 18-40GHz -Psat: ≥37dBm, Gain: ≥37dB

-Built-in control, monitoring and protection circuits

Product Description

The MPA-180400S37 is a 18-40GHz, saturated power ≥37dBm 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 & Millimeter Test System.

Function

- Amplifying signal within 18-40GHz
- Over-VSWR, over-heating, over-current, over-voltage protection functions

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Electrical Specifications

Frequency Range	GHz		18-40
Saturated Output Power	dBm	Typ./Min.	38/37@ Pin=0dBm
P1dB	dBm	Typ./Min.	35/33
Gain	dB	Typ./Min.	38/37@ Pin=0dBm
Gain Flatness	dB	Typ.	±1.5@ Pin=0dBm
Small Signal Gain	dB	Typ.	45@ Pin=-30dBm
Small Signal Gain Flatness	dB	Typ.	±2@ Pin=-30dBm
Isolation@ Disable Status	dB	Typ.	90
Input Power	dBm	Typ.	0
Spurious Suppression	dBc	Typ./Max.	-70/-65@ Pout=37dBm
Input VSWR	:1	Typ./Max.	2/2.5
Switching Time	us	Typ.	2@ 1kHz TTL，Pin=0dBm
Supply Voltage	V	Typ.	28
Power Consumption	W	Typ.	150@ Pin=0dBm

Limits

Input Power	Pin≤10dBm (Input RF level without damage)
Load VSWR	VSWR≤3:1 (Pout=37dBm)
	Power off (VSWR≥5:1 and Pout≥27dBm)
Supply Voltage	Power off (Supply Voltage≥32V or Supply Voltage≤24V)
Supply Current	Power off (Supply Current≥12A)
Thermal Degradation	75℃

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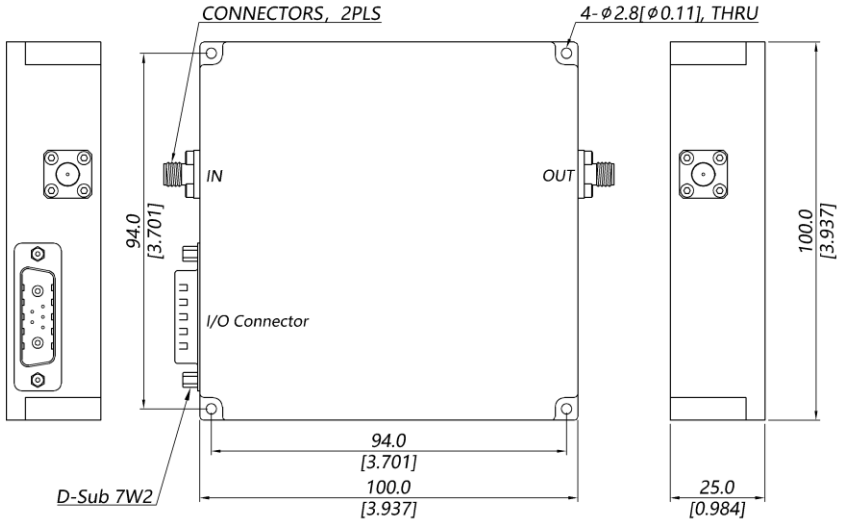
Mechanical Specifications

RF Input Connector			2.92mm [F]
RF Output Connector			2.92mm [F]
Power supply Connector			D-Sub 7W2 [M]
Control Connector			D-Sub 7W2 [M]
Dimension	mm		100x100x25(LxWxH) (tolerance: ±0.5)
Weight	g	Max.	700
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.

Outline Drawing



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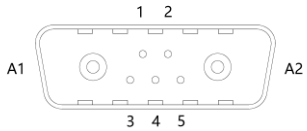
Interface Connector Pin Out



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