

Amplifier

Model **MPA-180400S37-H** **Rev.A**

18-40GHz Solid State Power Amplifier

-Frequency range: 18-40GHz

-Small Signal Gain: 54dB Typ.

-Psat: 38dBm Typ.

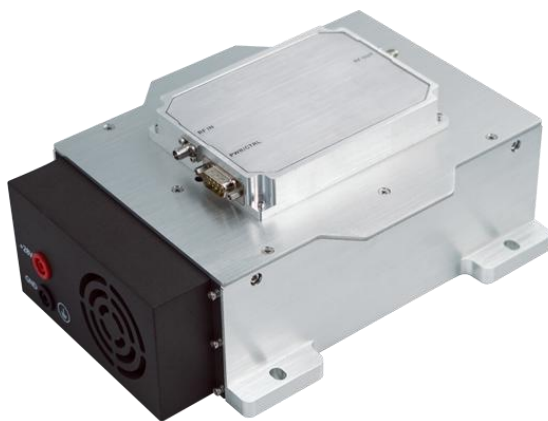
-Impedance: 50Ω

◆ Product Description

The MPA-180400S37-H is a 18-40GHz, saturated power $\geq 37\text{dBm}$ 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 radar, 5G, instrumentation and etc.

◆ Function

- Amplifying signal within 18-40GHz
- Over-heating protection
- Over-current protection



Amplifier

◆ Electrical Specifications (Test Conditions: Voltage=26V, Temp.=25°C, Signal Mode: CW)

Frequency Range	GHz		18-40
Saturated Output Power	dBm	Typ./Min.	39/37
P1dB	dBm	Typ	35
Gain	dB	Typ./Min.	44/42@ Pin=-5dBm
Gain Flatness	dB	Typ.	±1@ Pin=0dBm
Small Signal Gain	dB	Typ.	54@ Pin=-30dBm
Small Signal Gain Flatness	dB	Typ.	±2.5@ Pin=-30dBm
Isolation@ Disable Status	dB	Typ	90
2 nd Harmonic Suppression	dBc	Typ./Max.	-25/-15@ Pout=37dBm
3 rd Harmonic Suppression	dBc	Typ./Max.	-25/-15@ Pout=37dBm
Spurious Suppression	dBc	Typ./Max.	-70/-60@ Pout=37dBm
Input VSWR	:1	Typ./Max.	1.5/2
Supply Voltage	VDC	Typ.	+26
Power Consumption	W	Max.	120

◆ Limits

Input RF Power	≤10dBm
Load VSWR	≤3:1
Supply Voltage	+26V±4V
Over-current protection	≥10A

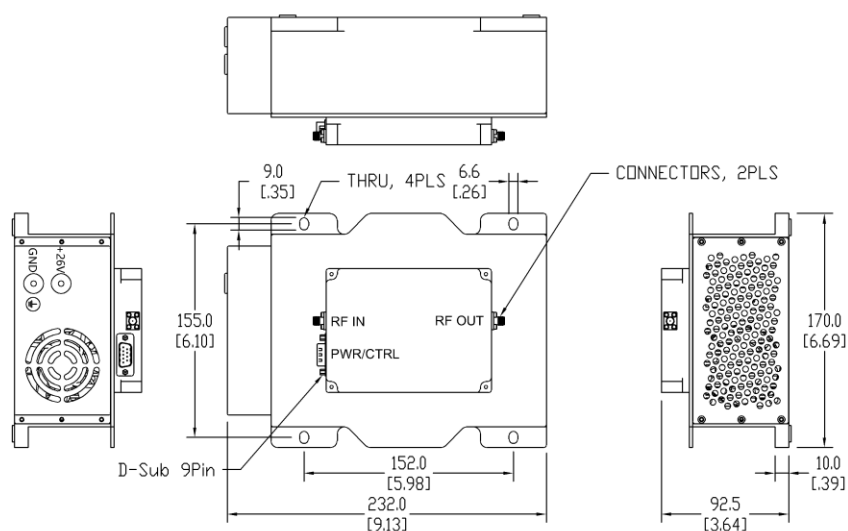
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Mechanical Specifications

RF Input Connector	2.92mm [F]
RF Output Connector	2.92mm [F]
Power supply Connector	D-Sub 9Pin
Control Connector	D-Sub 9Pin
Dimension ¹ mm	232.0x170.0x92.5 (LxWxH)
Weight g Max.	3400
Finishing	Alloy iridite
Temperature	Operating: -20°C~+70°C; Storage: -55°C ~ +85°C
Heat Dissipation	Air cooling

Note: 1. Unless otherwise specified, Decimal tolerance: LWH ± 1 ; other ± 0.5

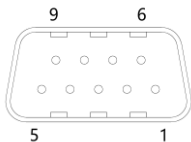
Outline Drawing



Amplifier

Interface Connector Pin Out

D-Sub 7W2



1.	Current Sensor	Current sense analog output (1)
2.	Temperature Sensor	Temperature sense analog output (2)
3.	Enable ON/OFF	Input logic high enables the amplifier, low disables the amplifier (default disabled) (3)
4.	GND	Ground
5.	RUN	Output high under normal condition, output low under fault condition
6.	VDD	+26VDC
7.	VDD	+26VDC
8.	GND	Power ground
9.	GND	Power ground

Note (1) $V_{out}=0.1V/A \times I$, when $I=5A$: $V_{out}=0.1V/A \times 5A=0.5V$
(2) $V_{out}=0.5V+(0.01V/^{\circ}C \times T)$, when $T=25^{\circ}C$: $V_{out}=0.5V+0.01V/^{\circ}C \times 25^{\circ}C=0.75V$
(3) High level: 2.4-3.3V, low level: 0-0.8V

Accessories List

	QTY.	Accessories
1.	1	Amplifier Power Cord
2.	1	Fan Power Cord

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Typical Graph

