

Amplifier

Model **MPAR-017060S46** **Rev.A**

1.7-6GHz Solid State Power Amplifier

-Frequency range: 1.7-6GHz -Psat: $\geq 46\text{dBm}$, Gain: $\geq 46\text{dB}$

-Built-in control, monitoring and protection circuits

◆ Product Description

The MPAR-017060S46 is a 1.7-6GHz, saturated power $\geq 46\text{dBm}$ 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 1.7-6GHz
- Over-heating, over-excitation, over-VSWR protection and fan alarm functions

Amplifier

◆ Electrical Specifications

| | | | |
|--------------------------------------|-----|-----------|----------------------------------|
| Frequency Range | GHz | | 1.7-6 |
| Saturated Output Power | dBm | Typ./Min. | 47/46@ Pin=0dBm |
| P1dB | dBm | Typ./Min. | 44.8/44 |
| Gain | dB | Typ./Min. | 47/46@ Pin=0dBm |
| Gain Flatness | dB | Typ. | ±1.3@ Pin=0dBm |
| Small Signal Gain | dB | Typ. | 55@ Pin=-30dBm |
| Small Signal Gain Flatness | dB | Typ. | ±1.5@ Pin=-30dBm |
| Isolation@ Disable Status | dB | Typ. | 90 |
| Input Power | dBm | Typ. | 0 |
| 2 nd Harmonic Suppression | dBc | Typ./Max. | -20/-12@ Pout=46dBm |
| 3 rd Harmonic Suppression | dBc | Typ./Max. | -30/-15@ Pout=46dBm |
| Spurious Suppression | dBc | Typ./Max. | -70/-65@ Pout=46dBm |
| Input VSWR | :1 | Typ./Max. | 1.5/2 |
| Supply Voltage | V | Typ. | 110-240 (47-61Hz / Single-Phase) |
| Power Consumption | W | Typ. | 300@ Pin=0dBm |

◆ Limits

| | |
|---------------------|---|
| Input Power | Pin≤10dBm (Input RF level without damage) |
| Load VSWR | VSWR≤3:1 (Pout=46dBm) |
| | Power off (VSWR≥5:1 and Pout≥36dBm) |
| Thermal Degradation | 75°C |

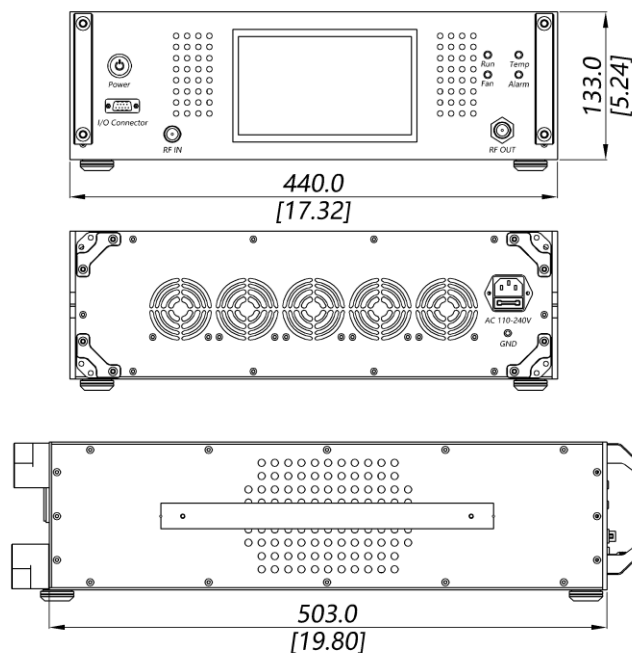
Amplifier

Mechanical Specifications

| | | |
|----------------------------|--|-------------|
| RF Input Connector | TYPE N [F] | |
| RF Output Connector | TYPE N [F] | |
| Power supply Connector | 3 WIRE A/C Power Entry (IEC320-C14 ,Including fuses) | |
| Control Connector | D-Sub 9Pin | |
| Dimension | mm | 3U, 19 inch |
| Weight | kg Max. | 20 |
| Finishing | Spraying plastics | |
| Temperature | Operating: -10°C~+55°C; Storage: -40°C ~ +75°C | |
| Heat Dissipation | Unit is cooled by air-forced condition | |
| Environmental ¹ | N/A | |

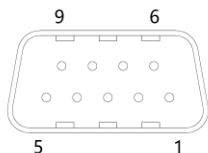
Note: 1. Altitude, vibration and shock are designed with considerations, but without tests and experiments.

Outline Drawing



Amplifier

◆ Interface Connector Pin Out



D-Sub 9Pin

| Pin | Function | Signal |
|------|-----------------------|--|
| 1. | GND | Ground |
| 2. | Shutdown | Amplifier Disable: TTL Logic High (3.3V) (Internally Pulled-Low) |
| 3. | Temperature Alarm | Abnormal: Logic High (3.3V) (Internally Pulled-Low) |
| 4. | Fan Alarm | Abnormal: Logic High (3.3V) (Internally Pulled-Low) |
| 5. | Power Amplifier Alarm | Abnormal: Logic High (3.3V) (Internally Pulled-Low) |
| 6-9. | N/C | No electrical connected, Reserved |

◆ Front Panel LED Indicators

| LED Label | Indicator Color and Description |
|-----------|--|
| 1. RUN | GREEN: Internal power turn on, Amplifier is awoken and ready to work |
| 2. TEMP | RED: Temperature is over-limited, Amplifier shutdown |
| 3. FAN | RED: Fan is abnormal, Amplifier shutdown |
| 4. ALARM | RED: Amplifier is abnormal, Amplifier shutdown, Connect D-Sub 9 to debug |