

## ◆ Product Description

The MPA-017060S51 is a 1.7-6GHz, 120W solid state high gain broadband high 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 and other related system, EMC Test and EW.

## ◆ Features

Frequency Range: 1.7-6GHz	Solid-state Class AB broadband design
Output Power.: 50dBm Min., 51dBm Typ.	Better linearity, higher efficiency
Gain: 50dB Min., 51dB Typ.	Suitable for CW, Pulse and wide instantaneous bandwidth signal
50 ohm input/output impedance	Better Harmonics and Gain Flatness
Built-in control, monitoring and protection circuits	High reliability and ruggedness

## ◆ Electrical Specification (T=25°C, DC Voltage =32V, CW, Load VSWR≤1.2)

Description	Min	Typ	Max	Unit
Operating Frequency	1.7		6	GHz
Output Power CW @ Pin = 0dBm	100	120		W
Output P1dB @ Pin = 0dBm	42	44		dBm
Gain @ Pin = 0dBm	50	51		dB
Gain Flatness @ Pin = 0dBm		±1.3	±1.6	dB
Input Power for Rated Psat	-2	0	2	dBm
2 <sup>nd</sup> /3 <sup>rd</sup> Harmonics @ Pin = -5dBm		-15/-25	-13/-15	dBc
Spurious Signals@ Pin = 0dBm		-70	-65	dBc
Input Return Loss		15	-10	dB
Third Order Intercept Point 2-Tone @ 40dBm/Tone, 100kHz Spacing*		+53		dBm
Operating Voltage	28	32	34	V
Quiescent Current @Enable=+3.3V		6		A
Current Consumption @Pout= 100~120 W		13.5	17	A
Switching Time @ 1kHz TTL, Pin = 0dBm		2	5	μs

Note\*: IP3 or IMD3 data, please contact sales.

## ◆ Environmental Specifications (Design Goal)

Operation Temperature*1	-20	65*2	°C
Storage Temperature Range	-25	70	°C
Relative-Humidity		95	%
Altitude*3	N/A		
Vibration/Shock*3	N/A		

Notes \*1: Operation Temperature can be extended to -45~80°C. Contact Sales for update.

Notes \*2: External Heatsink is required.

Notes \*3: Altitude /Vibration are designed with considerations, but without tests and experiments.

**◆ Limits**

Input RF Drive Level Without Damage	Pin ≤ 10 dBm
Load VSWR @ Pout =80W	VSWR ≤ 5:1 (Design Goal)
Load VSWR @ Pout =120W	VSWR ≤ 3:1 (Design Goal)
Thermal Degradation	Surface 90°C ± 5°C (recovery @ 60°C)

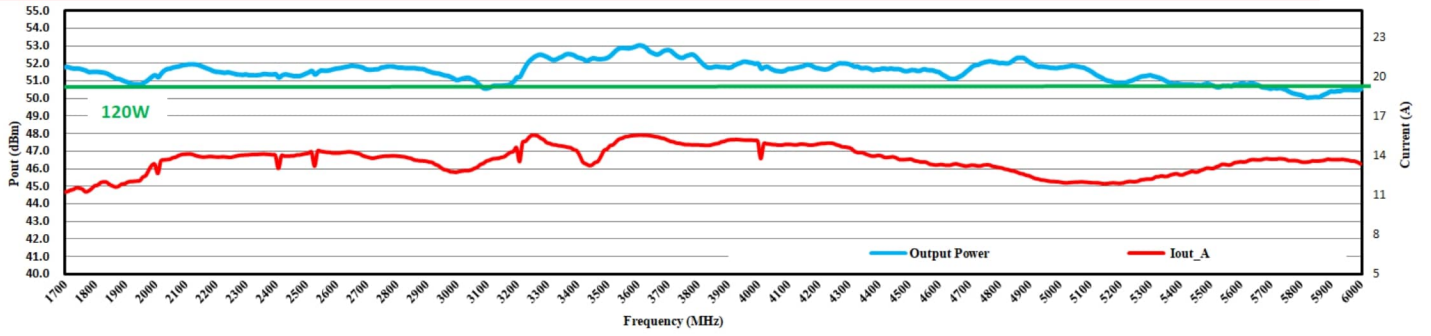
**◆ DC Interface Connector (Hybrid D-Sub 7-Pin, Male)**

Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	32VDC
1	CURRENT SENSE	Analog voltage relative to IDD @ 100 mV per Ampere
2	TEMP SENSE	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

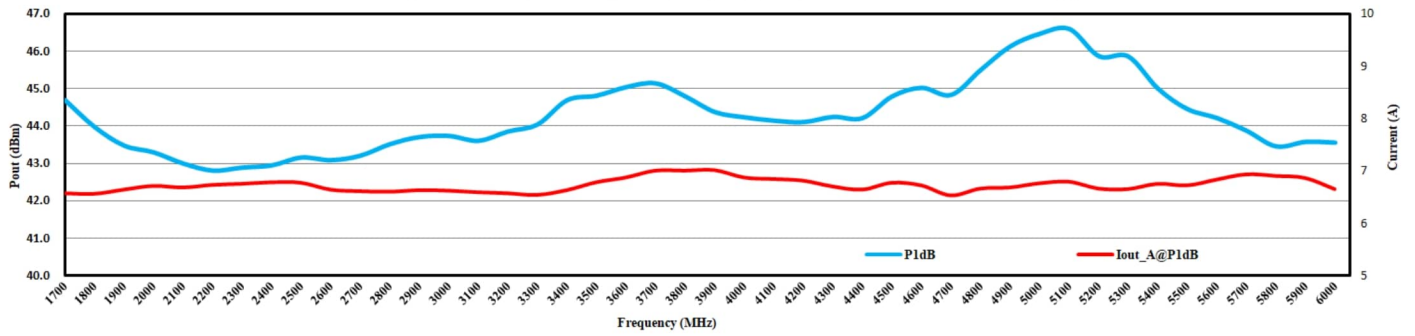
**◆ Plotted and other Data**

## Notes:

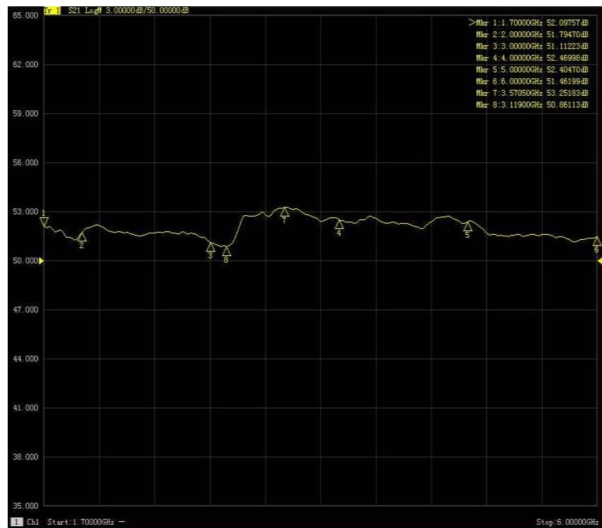
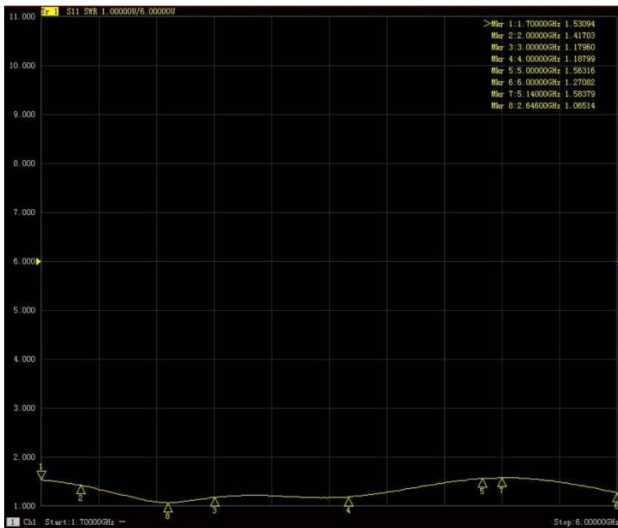
1. All specifications are guaranteed at +25° C. Customer is responsible for providing adequate heat sinking for sufficient heat dissipation.
2. ESD Sensitive Material, transport material in approved ESD bags. Handle only in approved ESD Workstation.



Pout and Current (Pin=0dBm, Load VSWR≤1.2, 25±3°C, Heatsink with fan cooling)

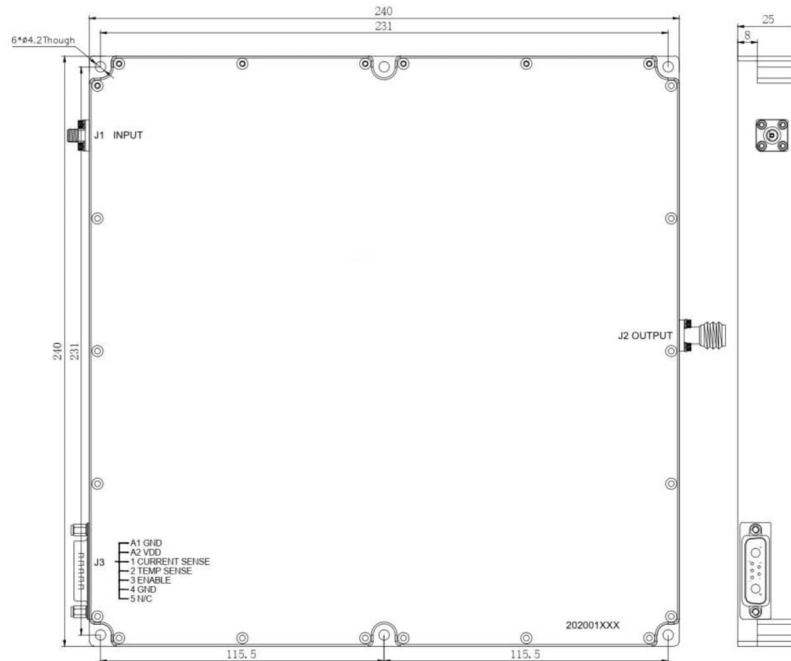


P1dB and Current (Load VSWR≤1.2, 25±3°C, Heatsink with fan cooling)



S11(left) and S21(right), Pin=0dBm, (Load VSWR ≤ 1.2), for Reference Only

◆ Outline Drawings (mm)



◆ Mechanical Definition

Dimensions (L,H,D) mm	240 x 25 x 240
Weight (Kg)	3
RF-Input	SMA Female
RF-Output	N Female