

◆ Product Description

The MPA-002020S37 is a 0.2-2GHz, P_{1dB} 5W high gain solid state broadband high power amplifier with state-of-art GaN design technology. It has higher saturated output power while keeping higher P_{1dB} 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 wideband communication, Test & Measurement, EW and etc.

◆ Features

Frequency Range:0.2-2GHz	Class AB broadband design
Output Power:10W Min., 12W Typ.	High power, high efficiency
Gain: 41dB Min., 42dB Typ.	Suitable for CW, Pulse and instantaneous bandwidth signal
50 ohm input/output impedance	Small and lightweight
Built-in control, monitoring and protection circuits	High reliability and ruggedness

◆ Electrical Specification (T=25°C, DC Voltage =26V, CW, Load VSWR≤1.2)

Description	Min	Typ	Max	Unit
Operating Frequency	0.2		2	GHz
Output Power CW @ Pin=0dBm	10	12		W
Output P _{1dB} * CW	5	6.3		W
Gain @ Pin = 0dBm	41	42		dB
Gain Flatness @ Pin = 0dBm		±1.5	±2	dB
Input Power for Rated Psat	-2	0	2	dBm
2 nd /3 rd Harmonics @ Psat		-15/-15		dBc
Noise Figure		10	12	dB
Spurious Signals@ Pin = 0dBm		-70	-65	dBc
Input VSWR		1.2	1.5	/
Third Order Intercept Point 2-Tone @ 30dBm/Tone, 1MHz Spacing*		+47		dBm
Operating Voltage	22	24	26	V
Current Consumption @Pout= 10~12W		2.5	3.5	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: Design without Considerations, but without tests and experiments.

◆ Limits

Input RF Drive Level Without Damage	Pin ≤ 10 dBm
Load VSWR @ Pin=-5dBm	VSWR ≤ 5:1 (Design Goal)
Load VSWR @ Pin=0dBm	VSWR ≤ 3:1 (Design Goal)
Thermal Degradation	Surface 90°C ± 5°C (recovery @ 60°C)

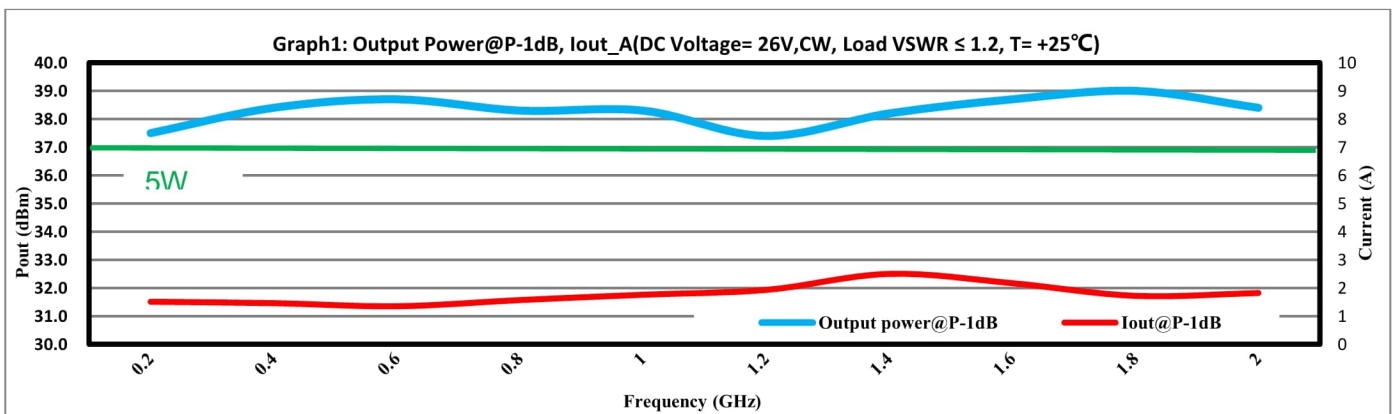
◆ DC Interface Connector (D-Sub 9-Pin, Male)

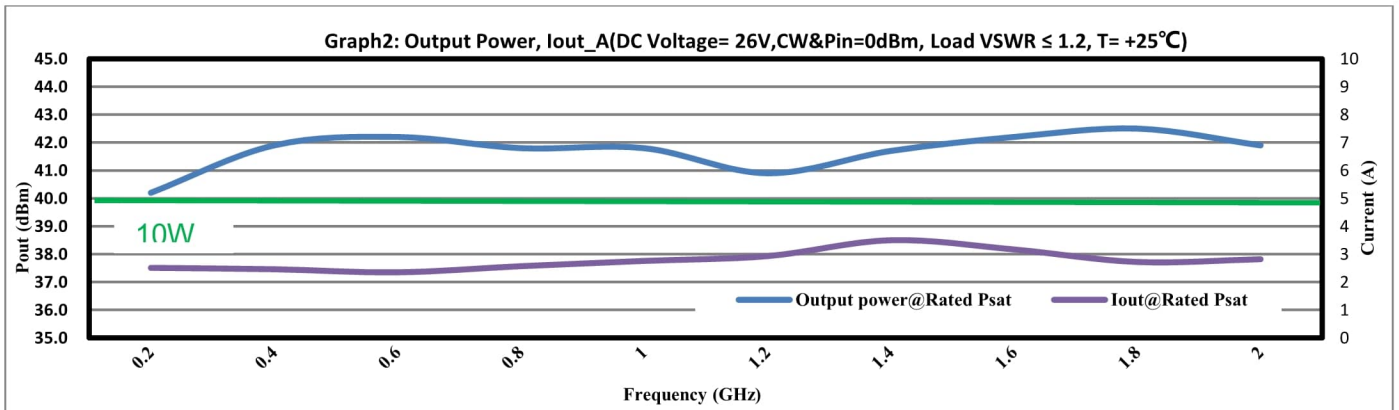
Pin #	Description	Specifications
1	RESERVED	No Connection
2	CURRENT SENSE	Analog voltage relative to IDD @ 100 mV
3	TEMP SENSE	Analog voltage relative to module temperature @ 10mV/°C
4	RESERVED	No Connection
5	ENABLE	Amplifier Enable: TTL Logic High (3.3~5V), Internally Pull down
6,7	VDD	+28 VDC
8,9	GND	Ground

◆ Plotted and other Data

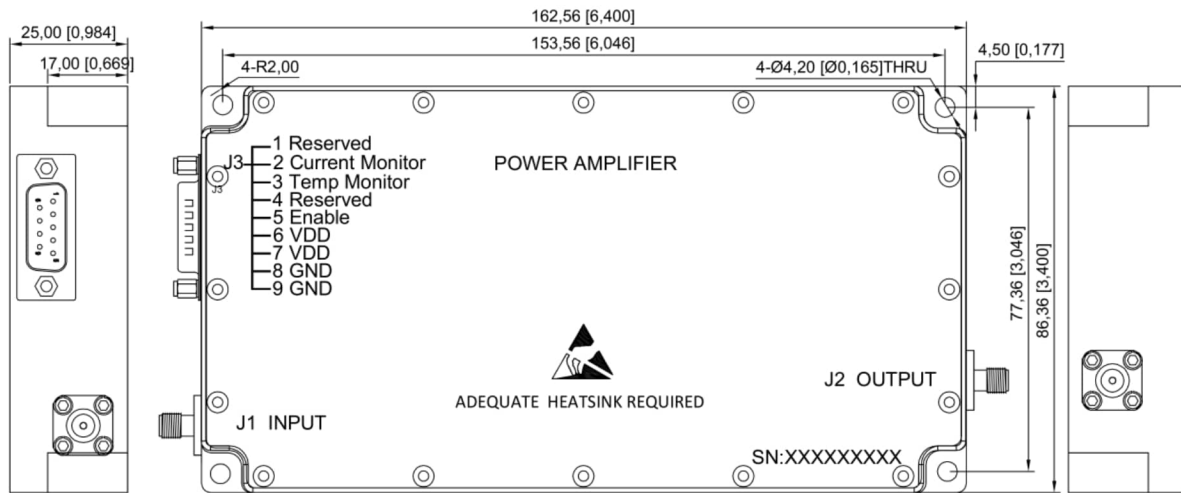
Notes:

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.





◆ Outline Drawings (mm)



◆ Mechanical Definition

Dimensions (B,H,D) mm	163 x 25 x 86
Weight (Kg)	0.8
RF-Input	SMA Female
RF-Output	SMA Female