Model – MB1.06.0G505032

The MB1.06.0G505032 is a 100W high gain Solid State Broadband High Power Amplifier. This amplifier module utilizes the latest high power RF GaN transistors and also features built in control and monitoring, with protection functions to ensure high availability. This amplifier is suitable for broadband jamming and EMC testing. The amplifier comes with an industry leading warranty.

Features

- 1GHz-6GHz frequency range
- Psat 50dBm type
- Power gain 50 dB
- 50 ohm input/output impedance
- Built-in control, monitoring and protection circuits
- Solid-state Class AB Broadband design
- Instantaneous ultra-broadband
- Suitable for CW, and Pulse
- Small and lightweight
- High reliability and ruggedness

ELECTRICAL SPECIFICATIONS(T=25℃,DC Voltage= 32V, Load VSWR ≤ 1.2)

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	1		6	GHz
Output Power CW* @ Pin=0dBm	Psat	90	100		W
Power Gain @ Pin= 0dBm	Gp	49	50		dB
Power Gain Flatness@ Pin=0dBm	ΔGp		±2	±2.5	dB
Input Power for Rated PSAT	PIN	-2	0	2	dBm
Harmonics @ Pin=-5dBm	2^{nd} /3^{rd}		-20/-25	-10/-12	dBc
Spurious Signals@ Pin=0dBm	Spur			-60	dBc
Input Return Loss	S11			-12	dB
Third Order Intercept Point 2-Tone @ 40dBm/Tone, 100kHz Spacing	IP3		N/A		dBc
Operating Voltage	VDC	28	32	33	V
Quiescent Current @Enable=+3.3V	IDQ		7		A
Current Consumption @Pout= 70~100 W	IDD		12	15	A
Switching Time @ 1kHz TTL, PIN =0dBm	TON/TOFF		2	4	µs

Note*: Fundamental Power, Harmonics are excluded

Note:** 100MHz Data is Available, please contact sales for further information.

MECHANICAL SPECIFICATIONS

Cooling External: Heat Sink Needed
Length* Width*Height: 240*240*25 mm
Weight: 6.6 lbs
RF Connector Input: SMA, Female
RF Connector Output: Type N, Female

Elite RF LLC
1700 Tower Drive, Hanover Park, IL 60133, USA
Call us for customer service/technical support at: 847-592-6350
Email: sales@eliterf.com Web: www.eliterfllc.com

Rev 1: 03/14/2024
Specifications subject to change, consult sales for latest information

ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

Module Operation Temperature*1	-20	65*2	℃
Storage Temperature Range	-45	85	℃
Relative-Humidity		95	%
Altitude *3	N/A		
Vibration/Shock *3	N/A		

Notes *1**:** Module Operation Temperature can be extended to -45~85℃, Contact Sales for update.

Notes *2**:** Should Supply Adequate Heat Dissipation, Enough Fan and Heat-Sink is necessary during the Temp Test.

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 =50W	VSWR≤5:1[Design To Meet]	N/A
Load VSWR @ POUT =70W	VSWR≤3:1[Design To Meet]	N/A
Thermal Degradation	90℃@ heat-sink [recovery@<60℃]	℃

DC INTERFACE CONNECTOR – [Hybrid D-Sub 7-Pin, Male]

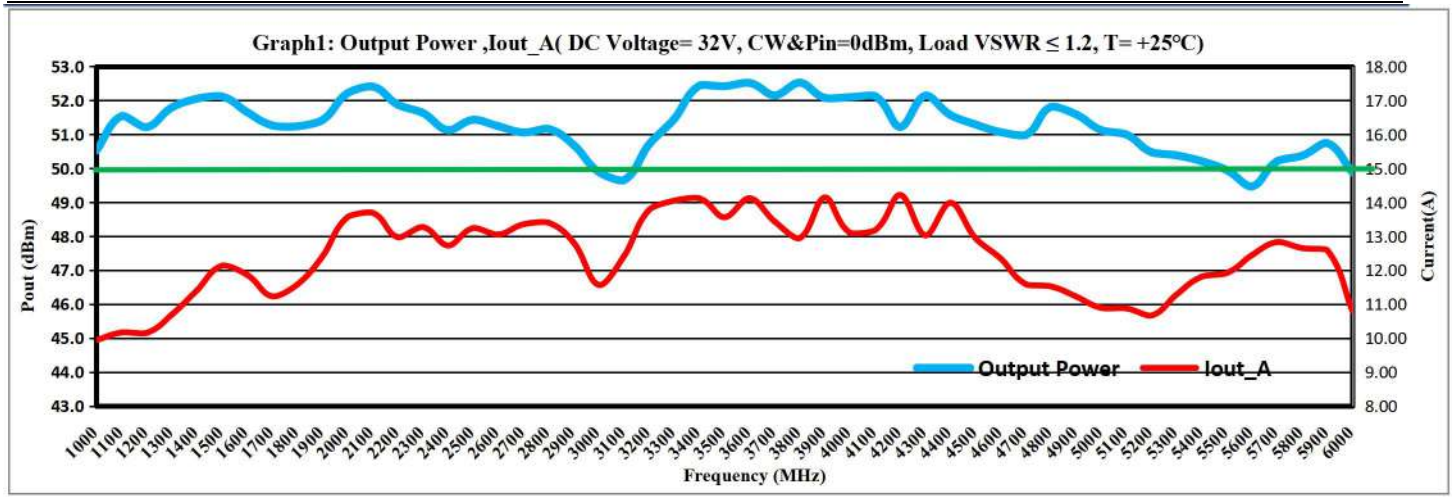
Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	32VDC
1	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
3	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	GND	Ground
5	N/C	No Connection

PLOTTED AND OTHER DATA

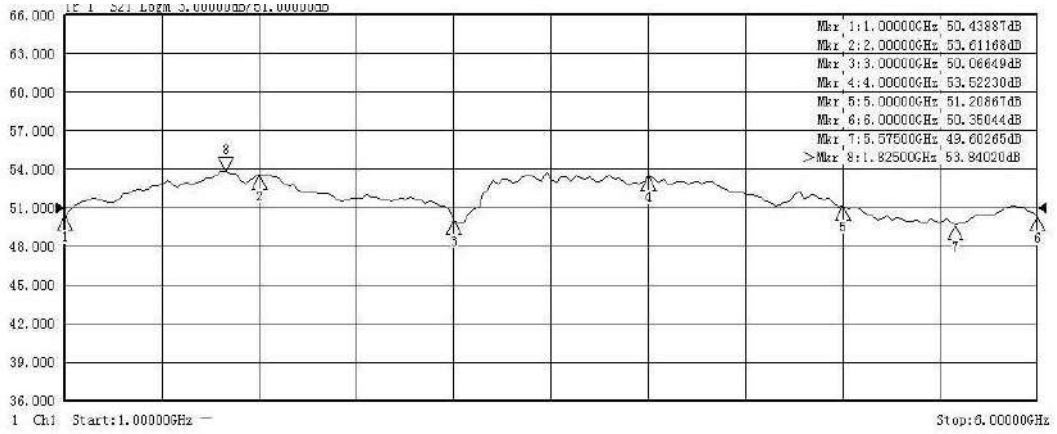
Notes:

1. Values at +25℃， sea level.
2. ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
3. Heat Sink required for Proper Operation, Unit is cooled by conduction to heat sink.

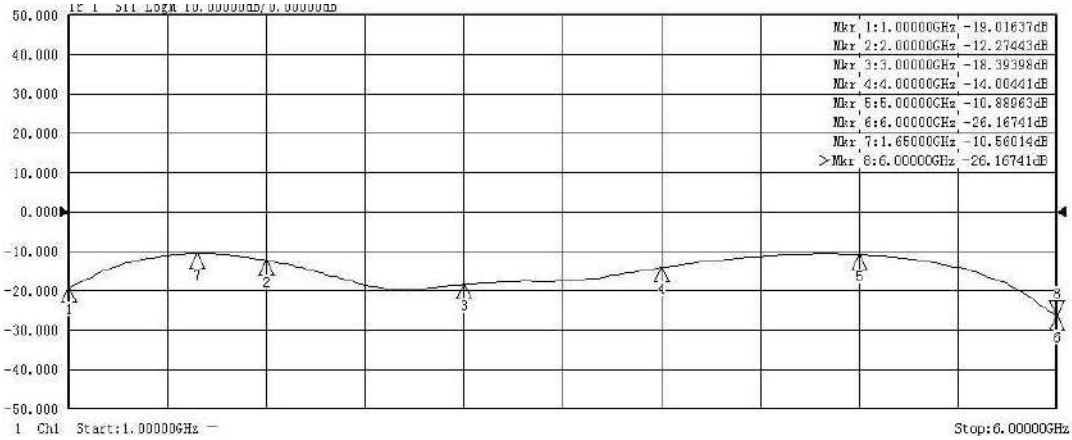
TYPICAL PERFORMANCE DATA [Load VSWR ≤ 1.2], (Normal temp. +25±3℃, Heat-Sink with Fan Cooling)



Graph1: Power Gain (DC Voltage= 32V, Pin=0dBm, Load VSWR ≤ 1.2, T= +25℃)



Graph 2: Input Return Loss (DC Voltage= 32V, Pin=-30dBm, Load VSWR ≤ 1.2, T= +25℃)



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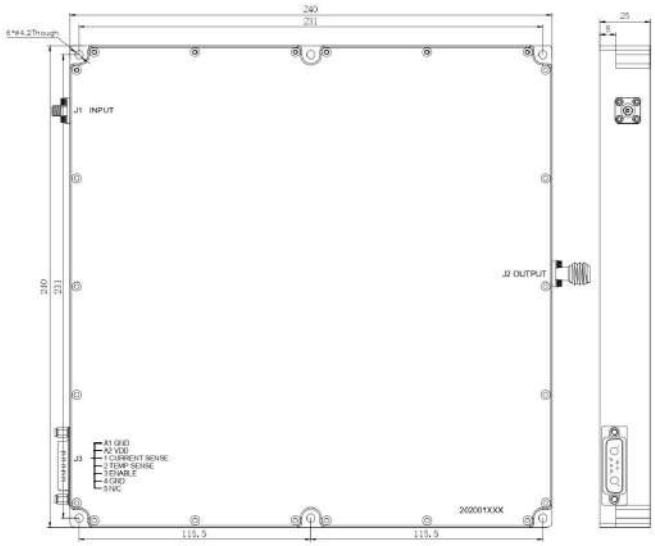
OUTLINE DRAWING [mm] &Product View



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