Model – MB6.0018G505028

The MB6.0018G505028 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 reliability. This amplifier is suitable for broadband jamming and EMC testing. The amplifier comes with an industry leading warranty.

Features

- 6GHz-18GHz frequency range
- Psat 50dBm type
- Small signal gain 50dB
- 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= 28V,Load VSWR ≤ 1.2)

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	6		18	GHz
Output Power CW @ Pin=0 dBm	Psat	80	100		W
Power Gain @ Pin=0 dBm	Gp	49	50		dB
Power Gain Flatness @ Pin=0 dBm	ΔGp		±2	±3	dB
Input Power for Rated PSAT	P_{IN}	-2	0	+2	dBm
Harmonics @ Pin=0 dBm	2^{nd} /3^{rd}		-15	-10	dBc
Spurious Signals@ Pin=0 dBm	Spur			-60	dBc
Input Return Loss	S11			-10	dB
Third Order Intercept Point 2-Tone @ 40dBm/Tone, 100kHz Spacing	IP3		N/A		dBm
Operating Voltage	V_{DC}	26	28	30	V
Quiescent Current @Enable= +3.3V	I_{DQ}		24		A
Current Consumption @Pout= 80~100 W	I_{DD}		40	50	A
Switching Time @ 1kHz TTL, P_{IN} = 0 dBm	T_{ON}/T_{OFF}		1	2	µs

MECHANICAL SPECIFICATIONS

Cooling: Heat-Sink Needed
Length* Width*Height: 340*340*407 mm
Weight: 15.5 lbs
RF Connector Input: SMA, Female
RF Connector Output: 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 = 80W	VSWR≤3:1[Design To Meet]	N/A
Thermal Degradation	90℃@ heat-sink [recovery@<60℃]	℃

DC INTERFACE CONNECTOR – [Hybrid D-Sub 9W4, Male]

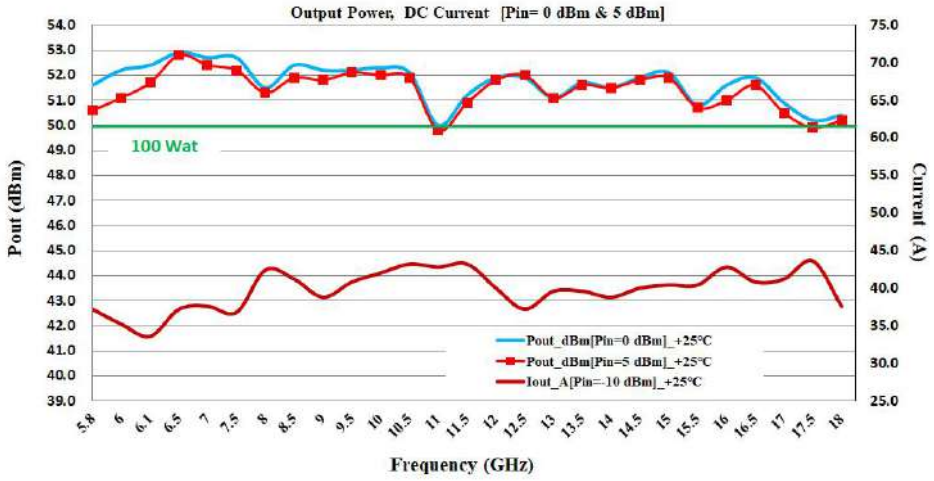
Pin #	Description	Specifications
A1	VDD	28VDC
A2	VDD	28VDC
A3	GND	Ground
A4	GND	Ground
1	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
3	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	GND	Ground
5	N/C	No Connection

PLOTTED AND OTHER DATA

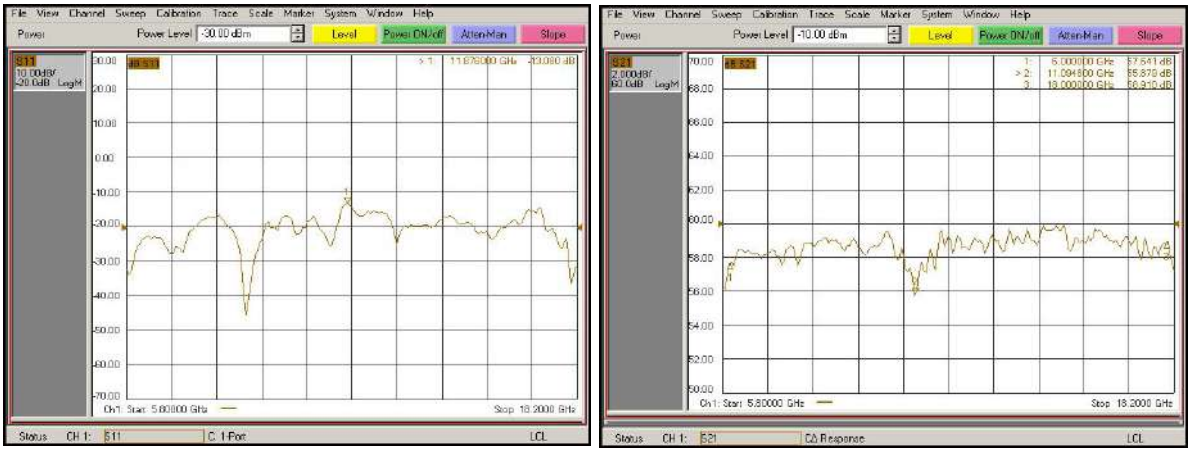
Notes:

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.

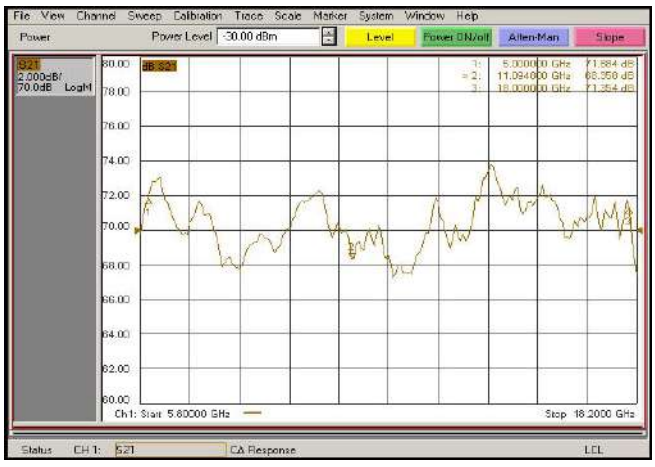
TYPICAL PERFORMANCE DATA [Load VSWR ≤ 1.2], (Normal temp. +25±3℃, Heat-Sink with Fan Cooling)



Input Return Loss,S11 Curve Test, Pin=-30dBm; S21 Curve Test (Power Gain), Pin=-10dBm [Load VSWR ≤ 1.2]



S21 Curve Test, Pin=-30dBm [Load VSWR ≤ 1.2] , For Reference Only



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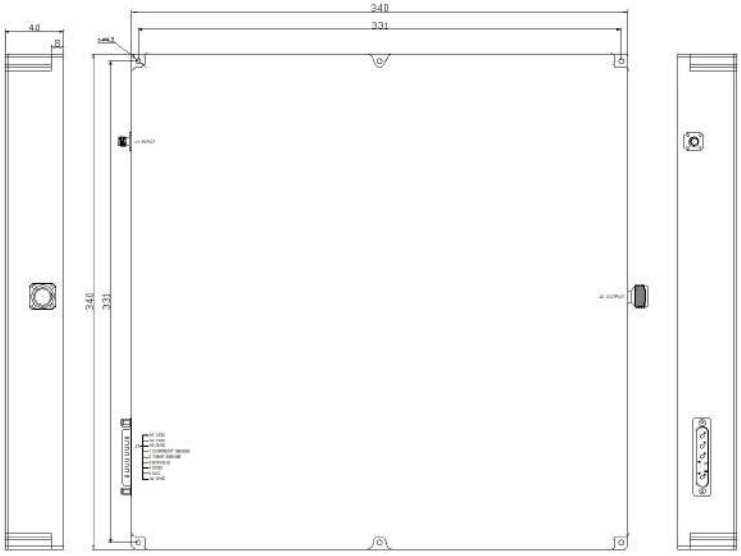
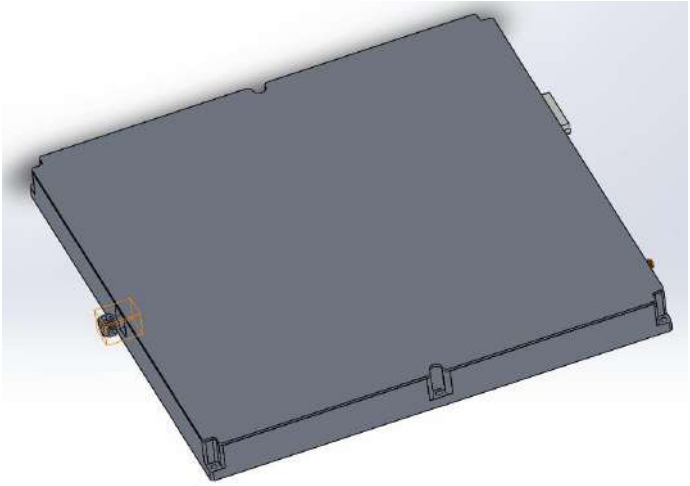
OUTLINE DRAWING [mm]



Side View [3D]



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