



### 50W Broadband High Power Amplifier Module 500 – 2500MHz



#### Features

- Ultra-broadband Amplifier Module
- Small and lightweight
- Supply Voltage: +28V

#### Typical Applications

- Wireless Infrastructure
- Test and Measurement
- Aerospace and Military

Electrical Specifications,  $T_A = +25^\circ\text{C}$ ,  $V_{DD} = +28\text{V}$

Parameter	Min.	Typ.	Max.	Units
Frequency Range	500		2500	MHz
Output Power CW		50		Watt
Power Gain		47		dB
Gain Flatness		±2.5		dB
Input Return Loss			-10	dB
Harmonics @ POUT =30W		-15		dBc
Spurious Signals		-55		dBc
Impedance		50		$\Omega$
Operating Voltage	24	28	32	Volt
Current Consumption @ POUT = 50W		6		Amp
Switching Speed		2		us

#### Mechanical Specifications

Dimensions	140x85x20.5mm
Weight	0.7Kg
RF Connectors Input	SMA - Female
RF Connectors Output	SMA - Female
DC Interface Connector	D-Sub 9-Pin, Male
Cooling	External Heatsink Required (Not Supplied)

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**Absolute Maximum Ratings**

Input RF drive level without damage	+10dBm (Max)
Load VSWR @ POUT =30W	∞ @ all load phase & amplitude for duration of 1 minute; 3:1 @ all load phase & amplitude continuous
Over Temperature	85°C @ heatsink(restored @ 60°C )

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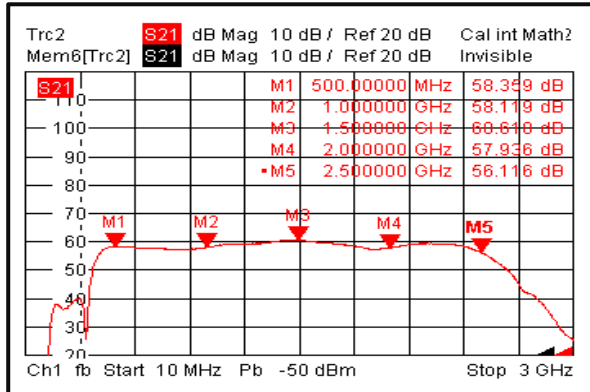
**Environmental Specifications and Test Standards**

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-20°C~+60°C
Storage Temperature		-20°C~+65°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude		Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)

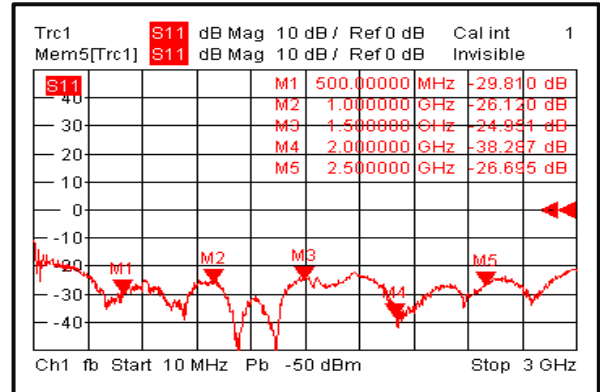


Typical Performance Plots

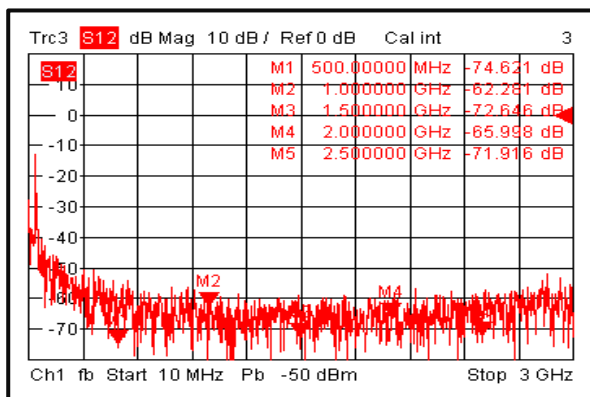
**Gain**



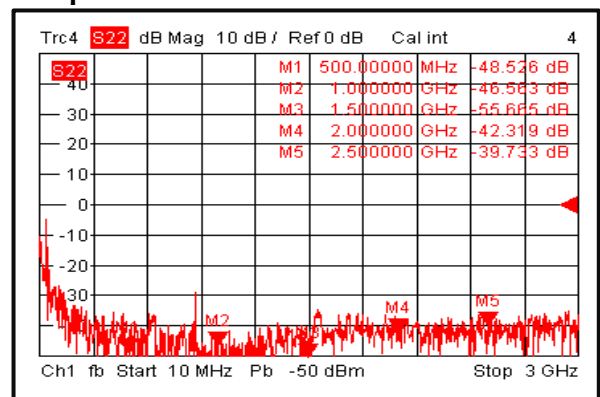
**Input Return Loss**



**Isolation**



**Output Return Loss**

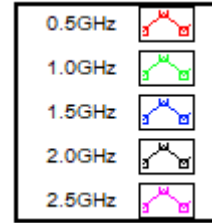
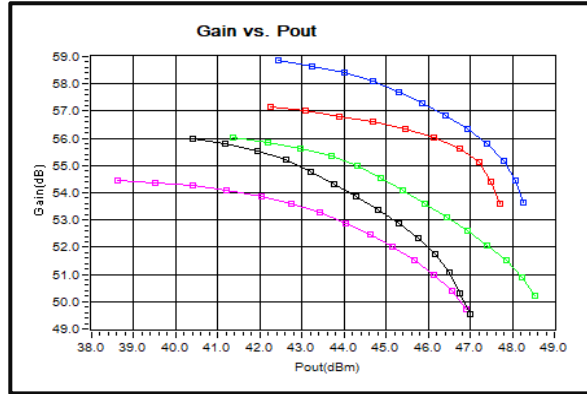


Note: Input/output return loss measurements include attenuators to protect equipment

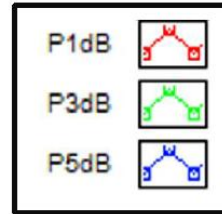
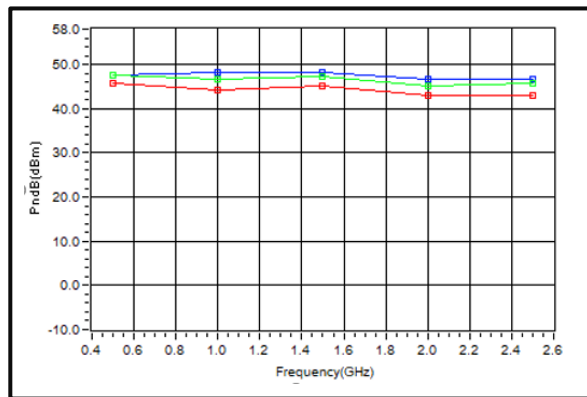
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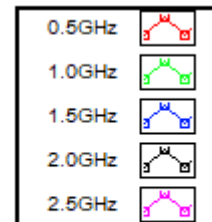
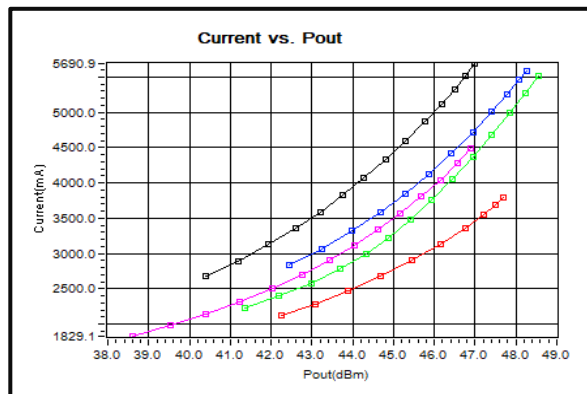
**Gain vs. Output Power**



**P1dB, P3dB, P5dB vs. Frequency**



**Current vs. Output Power**

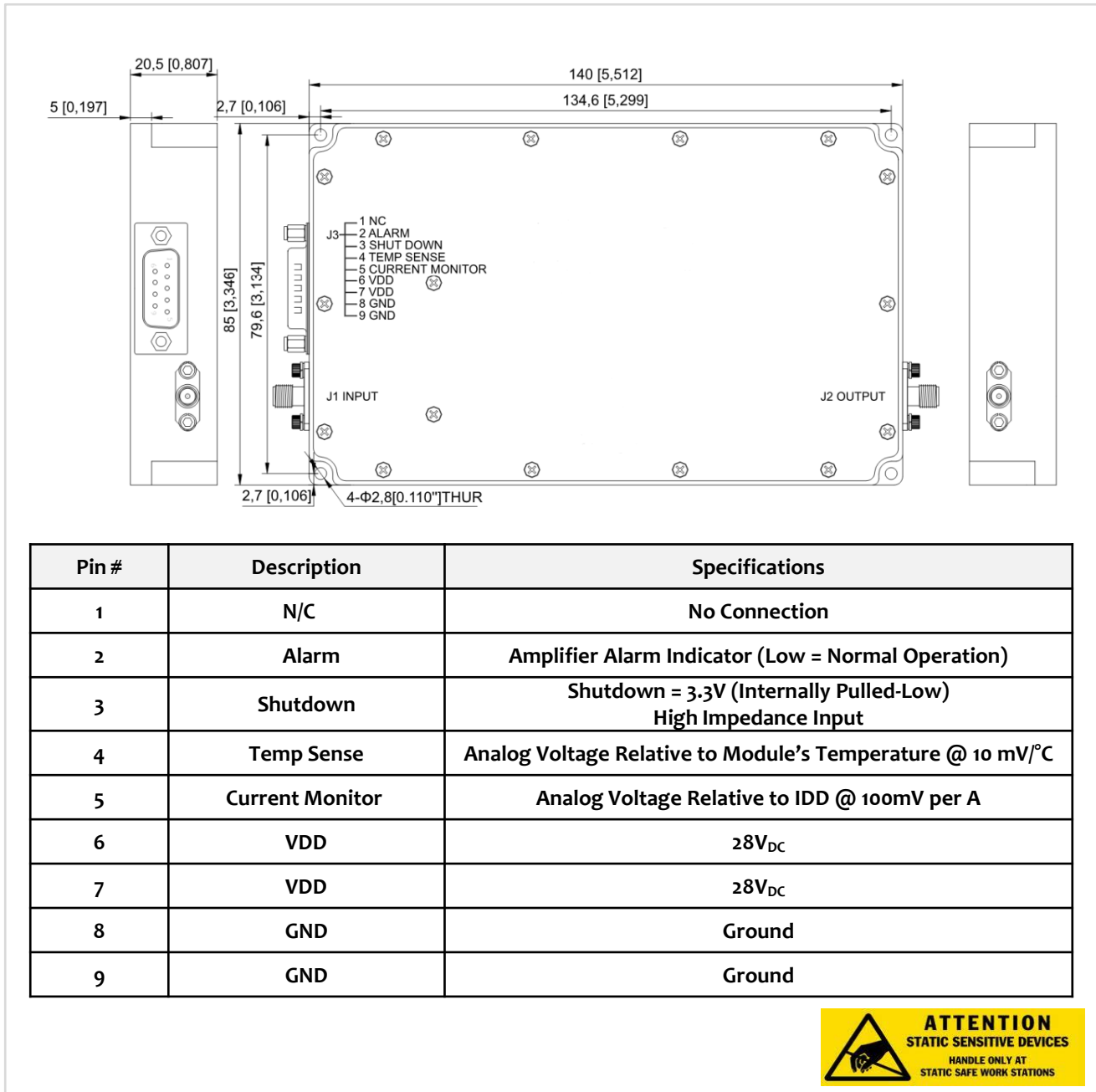


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**Outline Drawing:**

All Dimensions in mm [inches]



Pin #	Description	Specifications
1	N/C	No Connection
2	Alarm	Amplifier Alarm Indicator (Low = Normal Operation)
3	Shutdown	Shutdown = 3.3V (Internally Pulled-Low) High Impedance Input
4	Temp Sense	Analog Voltage Relative to Module's Temperature @ 10 mV/°C
5	Current Monitor	Analog Voltage Relative to IDD @ 100mV per A
6	VDD	28V <sub>DC</sub>
7	VDD	28V <sub>DC</sub>
8	GND	Ground
9	GND	Ground



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