

Hermetically Sealed Wide Band Solid State Power Amplifier 800 - 3000MHz



Features

- Wide Band Solid State Amplifier
- Gain: 45dB Typical
- Psat: 47dBm Typical
- DC Voltage: +28V

Typical Applications

- Wireless Infrastructure
- Test and Measurement
- Military and Defense

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

Parameter	Min.	Typ.	Max.	Units
Frequency Range	800		3000	MHz
RF Output Power		30		Watt
Power Gain		45		dB
Power Gain Flatness		± 2		dB
Input Return Loss			-10	dB
Harmonics @20W		-15		dBc
Spurious Signals		-60		dBc
Impedance		50		Ω
Operating Voltage	24	28	32	Volt
DC Current @30W		6		Amp
Switch On/Off@10-90% Time		2	5	us

Mechanical Specifications

Dimensions	150x90x22mm
Weight	1.5 Kg
RF Connectors Input	SMA - Female
RF Connectors Output	SMA - Female
DC Interface Connector	D-Sub 9-Pin, Male
Cooling	External Heatsink Required (Not Supplied)

Absolute Maximum Ratings

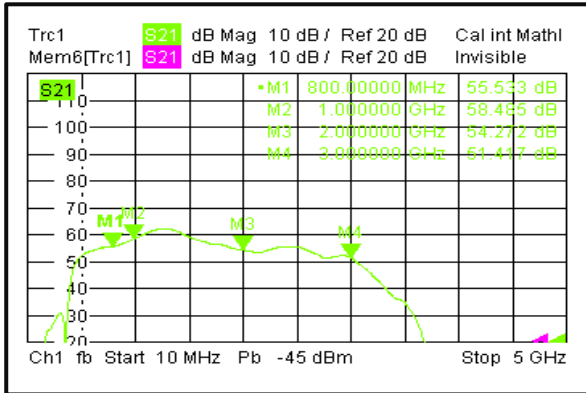
Input RF drive level without damage	+10dBm(Max)
Load VSWR @ POUT =20W	∞ @ all load phase & amplitude for duration of 1 minutes; 3:1 @ all load phase & amplitude continuous
Over Temperature	85°C @ heatsink(restored @ 60°C)

Environmental Specifications and Test Standards

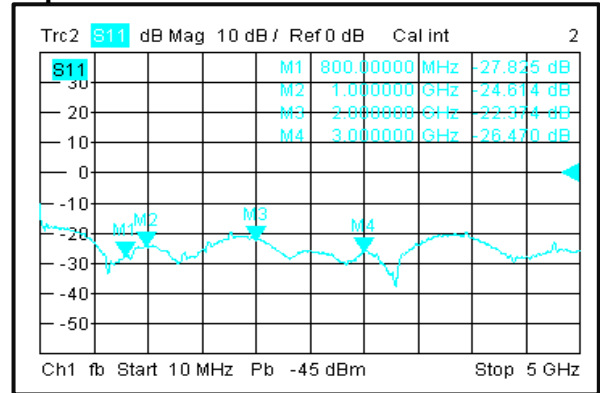
Parameter	Description
Operational Temperature	-40°C~+60°C (Case Temperature)
Storage Temperature	-40°C~+85°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
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 (For Hermetically Sealed Units)

Typical Performance Plots

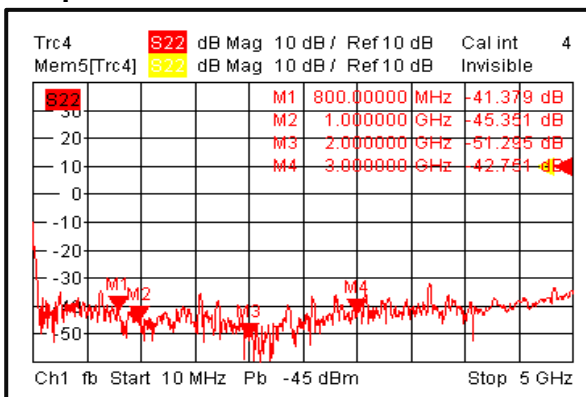
Gain



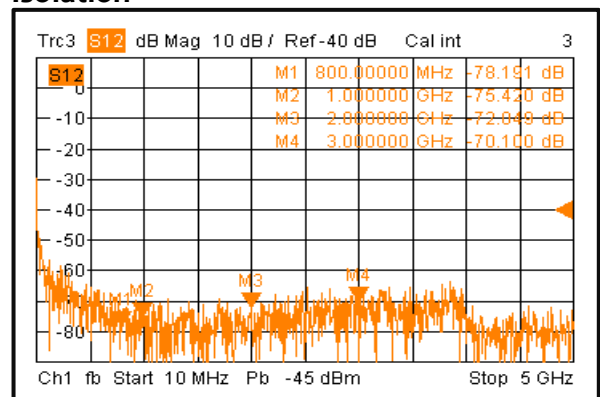
Input Return Loss



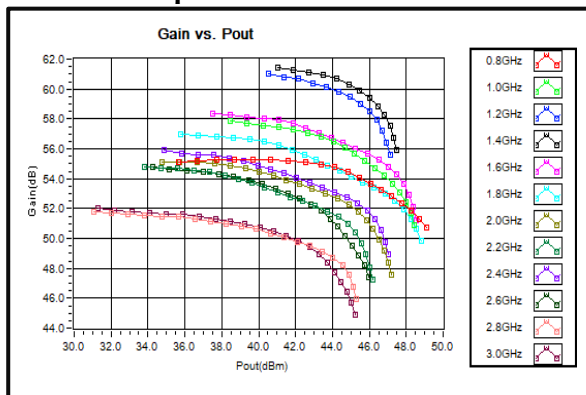
Output Return Loss



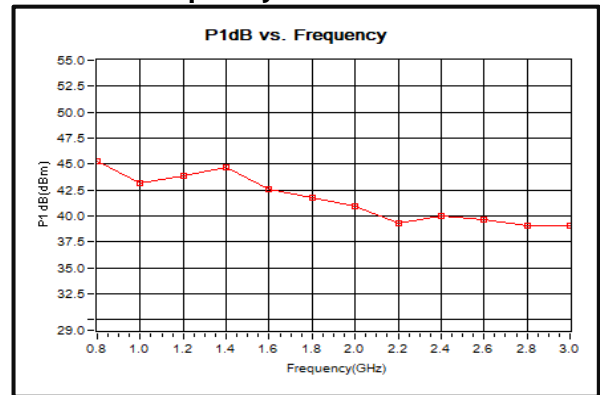
Isolation



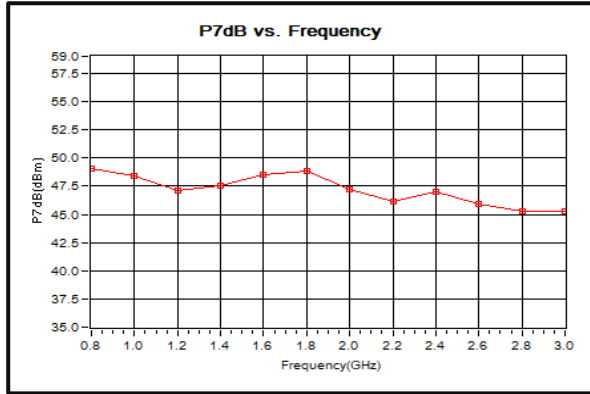
Gain vs. Output Power



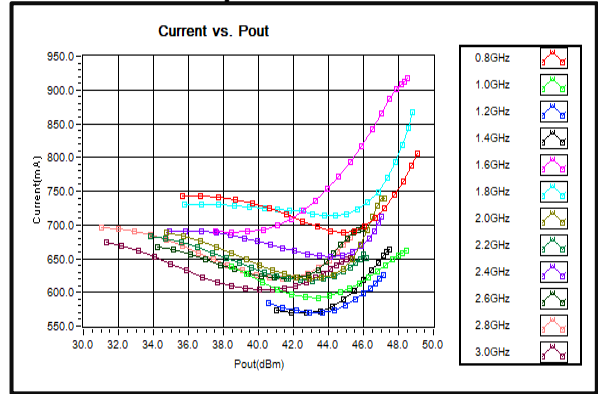
P1dB vs. Frequency



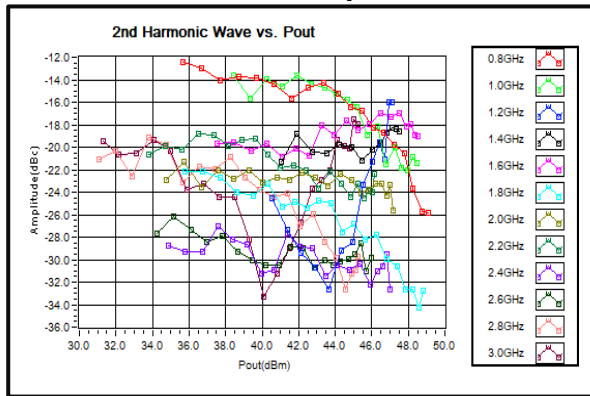
P7dB vs. Frequency



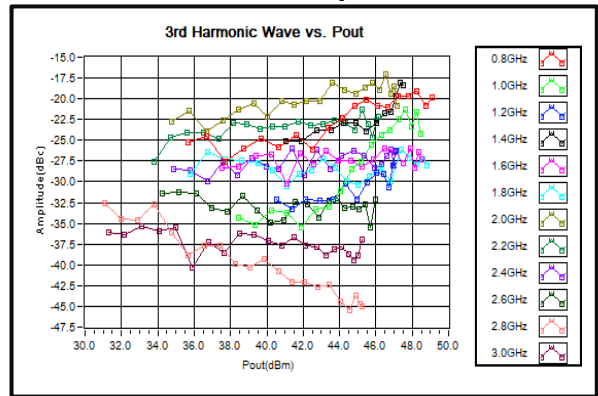
Current vs. Output Power



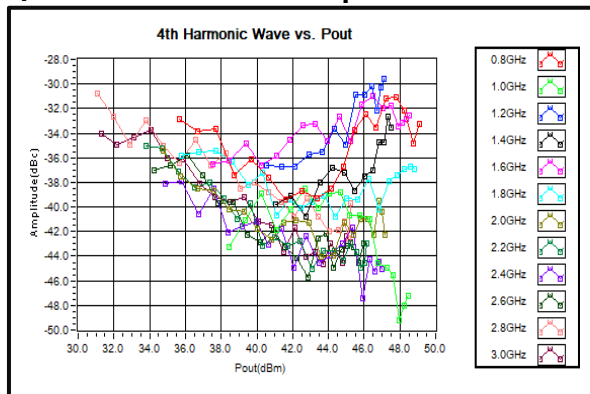
2nd Harmonic Wave Output Power



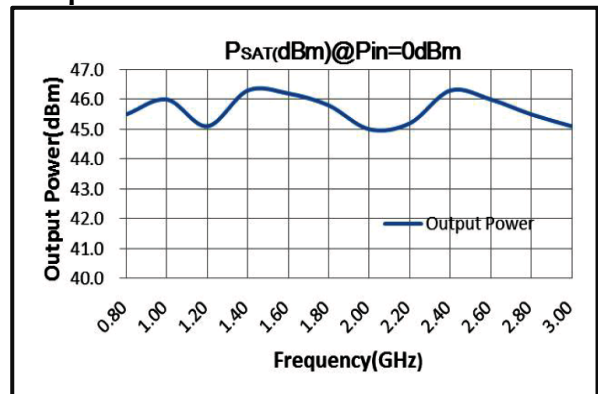
3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



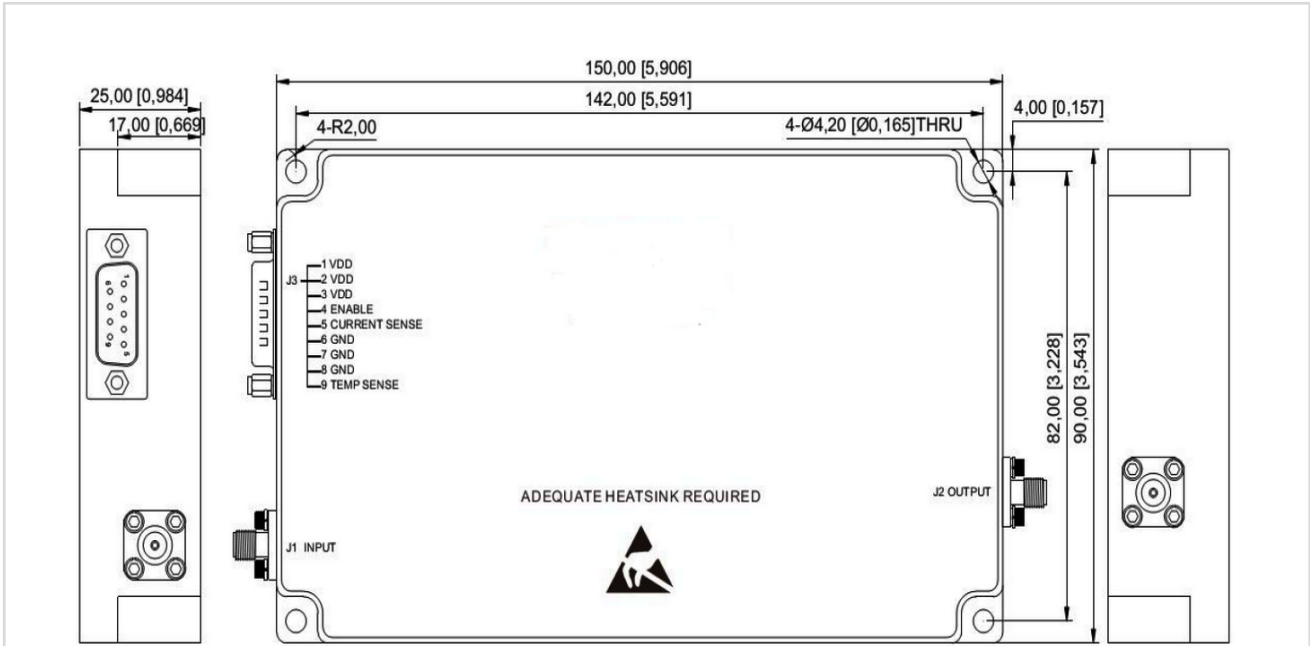
Output Power



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Outline Drawing:

All Dimensions in mm [inches]



DC Interface Connector

Pin #	Description	Specifications
1,2,3	VDD	28V _{DC}
4	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
5	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
6,7,8	GND	Ground
9	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C



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