

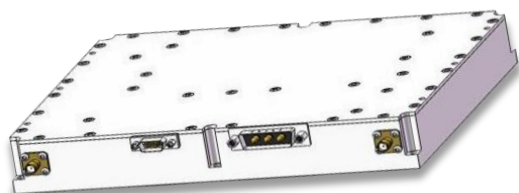


RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFLUPA250K220MA

Wide Band Power Amplifier 250KHz~220MHz



Features

- Wide Band Power Amplifier
- Small Signal Open loop Gain : 60 dB
- Output Power: 150W CW

Typical Applications

- Test and Measurement
- Wireless Communications
- Military and Aerospace

Electrical Specifications, $T_A = +25^\circ$

Parameter		Min.	Typ.	Max.	Units
Frequency Range		0.25		220	MHz
Open Loop Gain (ALC Open Loop)			60		dB
Gain Flatness (ALC Closed Loop)			± 2.5		dB
Gain Adjustment Range (ALC Closed Loop)			15		dB
Display Power Value Error			± 2.5	± 3.5	dBm
Maximum Output Power (Input to 0dBm closed loop)		52	53		dBm
Output Third Order Intercept (IP ₃) @Output Power 50W			56		dBm
Input VSWR			1.5	2	:1
Harmonic Suppression @Pout = 120W			-15	-12	dBc
Efficiency		50	55		%
DC Voltage	@24V		0.7	1	A
	@48V		6	8	A
Input / Output Connectors		SMA-Female			

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Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-20°C~+50°C
Storage Temperature		-50°C~+105°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)

Amplifier Use

Ensure that the amplifier input and output ports are safely terminated into a proper 50 ohm load before turning on the power. Never operate the amplifier without a load. A proper 50 ohm load is defined as a load with impedance less than 1.9:1 or return loss larger than 10dB relative to 50 Ohm within the specified operating band width.

Power Supply Requirements

Power supply must be able to provide adequate current for the amplifier. Power supply should be able to provide 1.5 times the typical current or 1.2 times the maximum current (whichever is greater).

In most cases, RF - Lambda amplifiers will withstand severe mismatches without damage. However, operation with poor loads is discouraged. If prolonged operation with poor or unknown loads is expected, an external device such as an isolator or circulator should be used to protect the amplifier.

Ensure that the power is off when connecting or disconnecting the input or output of the amp.

Prevent overdriving the amplifier. Do not exceed the recommended input power level.

Adequate heat-sinking required for RF amplifier modules. Please inquire.

Amplifiers do not contain Thermal protection, Reverse DC polarity or Over voltage protection with the exception of a few models. Please inquire.

Proper electrostatic discharge (ESD) precautions are recommended to avoid performance degradation or loss of functionality.

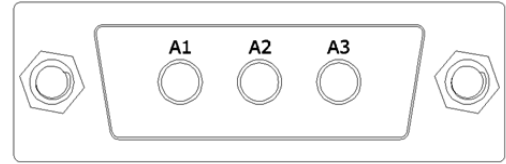
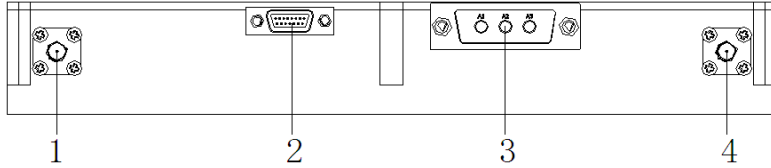
What is not covered with warranty?

Each RF - Lambda amplifier will go through power and temperature stress testing.
Since the die, ICs or MMICs are fragile, these are not covered by warranty. Any damage to these will NOT be free to repair.



Module Interface and Description

1. Power Input Interface: +24V&48V Input Interface



Power Input Interface Table

Pin Number	Definition
A1	+24V
A2	GND
A3	+48V

2. RF Output: Power Amplifier Output Interface.

Test Data

Signal Source	Frequency	250K	500K	1M	5M	10M	20M	40M	80M	120M	160M
odBm	Display dBm	51.2	51.5	50.2	52.3	53.2	55.0	54.8	53.8	52.8	52.6
	Actual Measurement dBm	52.3	52.3	52.3	53.2	53.2	53.3	52.9	52.4	52.3	52.1
The typical value of power test when input is odBm, attenuator 60dB and output is 53dBm (maximum): spectrum analyzer MS8609A.											

Harmonic	Frequency	250K	500K	1M	5M	10M	20M	40M	80M	120M	160M
dBc	Two Times	25	23.5	23.1	25.2	24.9	27.9	28.6	30.3	32.4	36.4
	Three times	21	21.6	21.1	24.3	20.1	19	17.5	25.3	27	29.6
he typical value of harmonic test is input when odBm, attenuator 60dB and output is 50.8dBm (120W): spectrum analyzer MS8609A.											



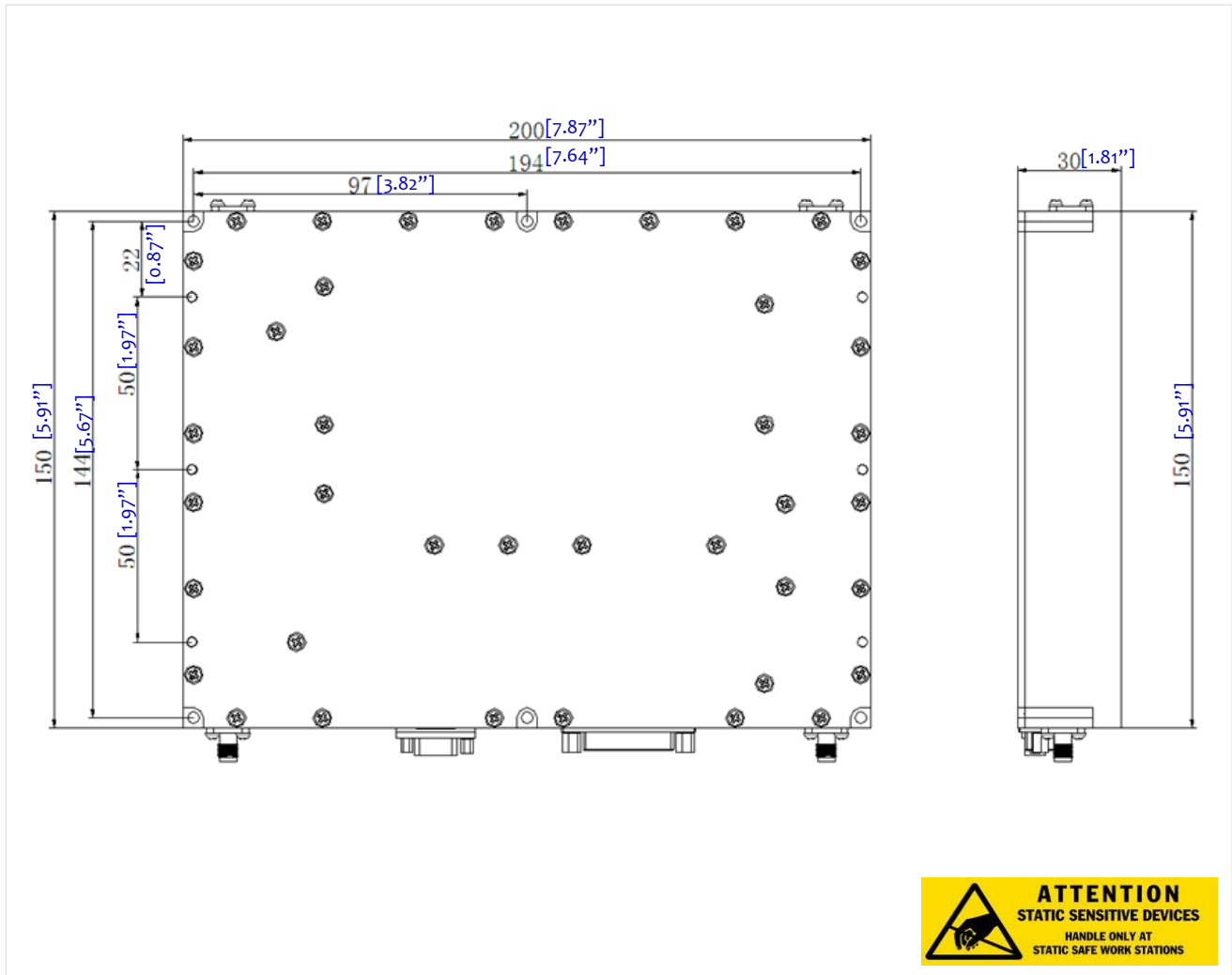
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Outline Drawing:

All Dimensions in mm [inches]



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Important Notice

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