



# Solid State High Power Amplifier

1.0 – 6.0 GHz, Wide Instantaneous Bandwidth, Built-in protection

## Broadband Series: PA1044

### FEATURES

Class AB GaN design  
1.0 – 6.0 GHz  
Supports all modulation standards  
100 Watt output power  
50 dB gain  
28 Volt operation

Fully protected – load VSWR, input overdrive,  
over/under supply voltage, overcurrent

### APPLICATIONS

Broadband jamming  
LTE laboratory test equipment

### Command and control.

*Protecting troops and civilians alike from harm.*

Controlling the field on the ground often means keeping dangerous trigger signals out of play. The MtronPTI PA1044 Solid State Power Amp provides 100 Watts of CW power and better than 3.0 dB<sub>P.P</sub> gain flatness to meet the needs of broadband communication suppression.

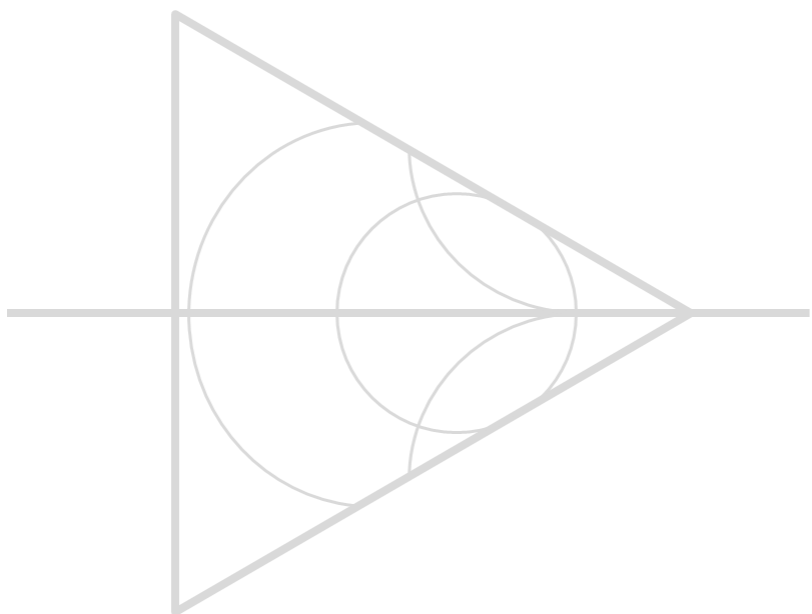
Covering all modulation standards from 1.0 to 6.0 GHz and with built in VSWR protection, the PA1044 has 50 dB of gain, perfect for vehicle mounted applications.

MtronPTI's line of Solid State Power Amplifiers is backed by a multi-national design and manufacturing team with more than 150 years combined PA design experience. MtronPTI's continuing focus on client service ensures full program life engineering support from specification to production to next generation architecture planning.

The PA1044 is available in 48 volt or 28 volt options and can be integrated into custom assemblies with filters or other passive components.



U.S. Army photo by Sgt. Derec Pierson. (RELEASED))



**Electrical Characteristics**

Parameter	Specification	Notes
Operating Frequency Range	1.0 - 6.0 GHz	
Power Output	100 Watt Min	CW
Power Output @ P1dB	50 Watt Typ	CW
Power Gain	50 dB Min	
Power Gain Flatness	4.0 dB p-p Max	Constant input power
Input / Output Return Loss	10 dB Min	Relative to 50 Ohm
2-Tone Intermodulation (IMD)	>30 dBc Typ	40 dBm/Tone, $\Delta = 1$ MHz
Harmonics	>20 dBc Typ	-15dBc @ 1GHz - At rated Pout
Non Harmonics Spurious	>60 dBc	Non-harmonics
Operating Voltage	28 VDC	
Current Consumption	24 Amp Max	At rated Pout
Max Input Power	+8 dBm	<10 Sec without damage
Load VSWR Protection	5 : 1	<1 minute at rated output
Turn On / Off Speed	5 $\mu$ Sec Max	

**Environmental & Mechanical Specifications**

Parameter	Specification	Notes
Operating Case Temperature	-20 to +65 °C	
Storage Temperature	-40 to +85 °C	
Relative Humidity	5 to 95 %	Non Condensing

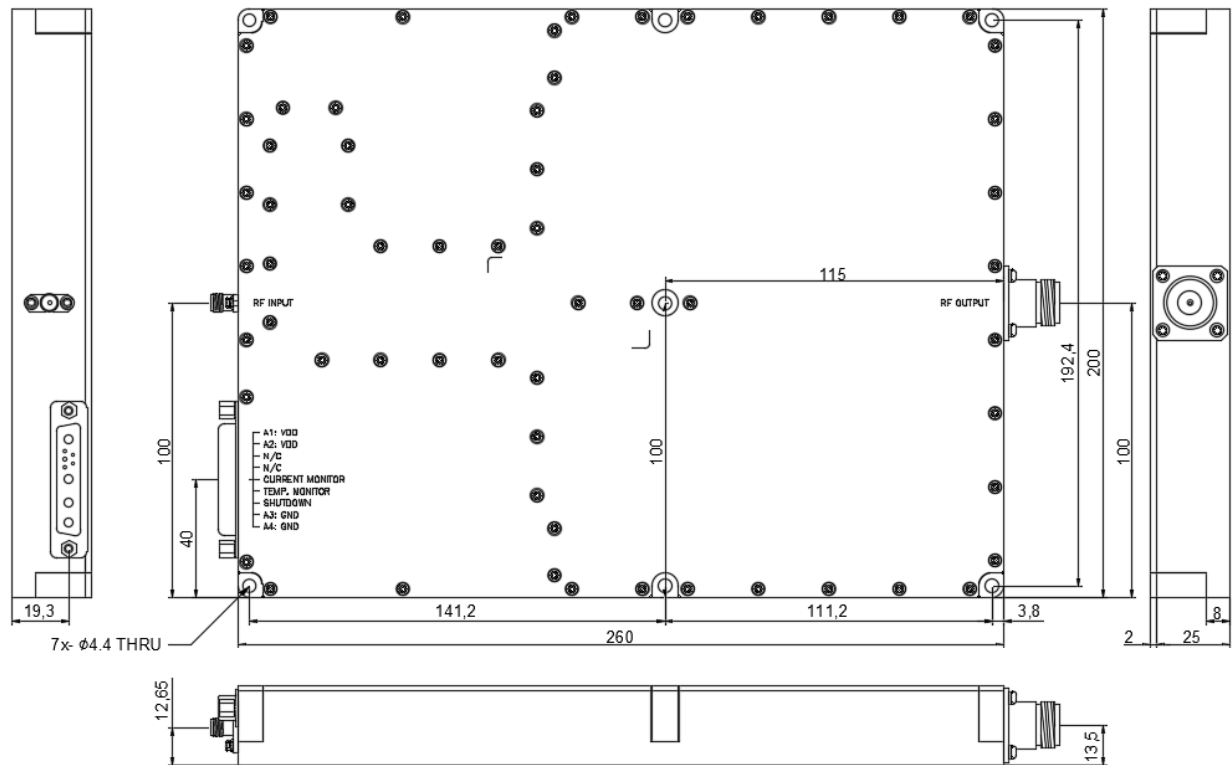
Parameter	Specification	Notes
Dimensions	260 x 200 x 27mm	Excluding Connectors
Weight	3.1 Kg.	
RF Connectors In/Out	SMA / Type-N female	
DC Power / Interface Connector	Hybrid 9-Pin D-Sub	9W4
Cooling	External Heatsink	Forced air required

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**D-SUB CONNECTOR PIN ASSIGNMENT**

Pin	Function	Description
1	FWD	OPTION 101 - Forward power detect
2	VVA	OPTION 103 - Variable Voltage Attenuator
3	CURRENT SENSOR	$I_b$ @20mV/100mA Typ
4	TEMP SENSOR	$V_T$ @10mV/°C + 500mV Typ
5	SHUTDOWN	TTL
A1, A2	VDD	29VDC
A3, A4	GND	Ground

Case Outline – Standard Module



Revision History

Date	Rev.	Orig.	Details of Revision
20171106	B	DPD	Minor Changes to outline
20141118	A	DPD	Initial release in 2015 format

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