



Solid State High Power Amplifier

20 – 520 MHz, Wide Instantaneous Bandwidth, Built-in protection

Broadband Series: PA1014

FEATURES

Class AB linear LDMOS design
20 – 520 MHz
100 Watt output power
50 dB gain
28 Volt operation
Suitable for all modulations standards

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

APPLICATIONS

Broadband jamming
Electronic warfare
EMI / EMC test equipment

Wideband. Agile. Powerful. Compact.

Spectrum management.

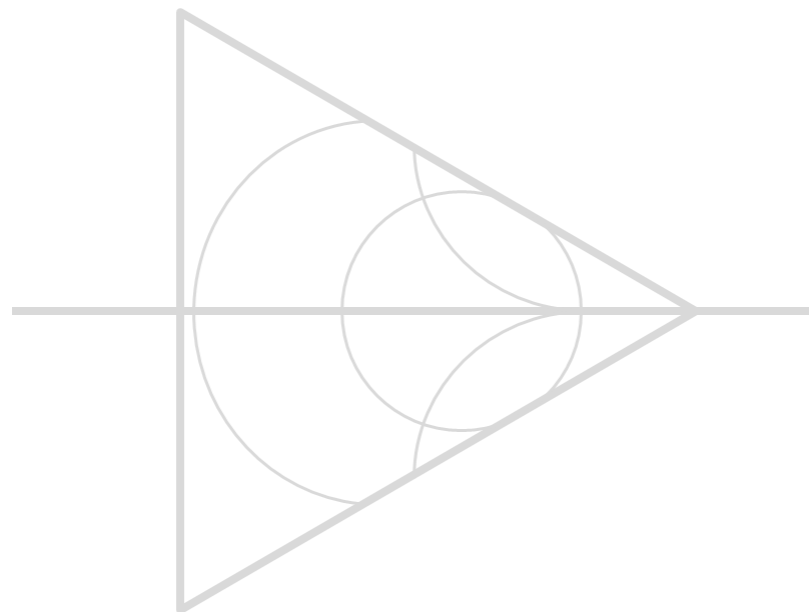
The first task is to get your message through. The second is to prevent the other guy from getting *his* message through. The MtronPTI PA1014 Solid State Power Amp provides a minimum of 100 Watts of CW power across the full bandwidth and less than 3.0 dB_{P-P} gain flatness to meet the needs of broadband spectrum control.

With full power operation from 20.0 MHz to 520 MHz and built in VSWR protection, the PA1014 has 50 dB of gain, perfect for stand-alone, array or TWT driver 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.

Like all MtronPTI's SSPAs, the PA1014 is also available integrated with power supply, cooling and communications interface as a rack mountable unit for laboratory or fixed location applications.

EA-6B Prowler – U.S. Navy photo by Photographer's Mate 3rd Class Martion S. Fuentes. (RELEASED)



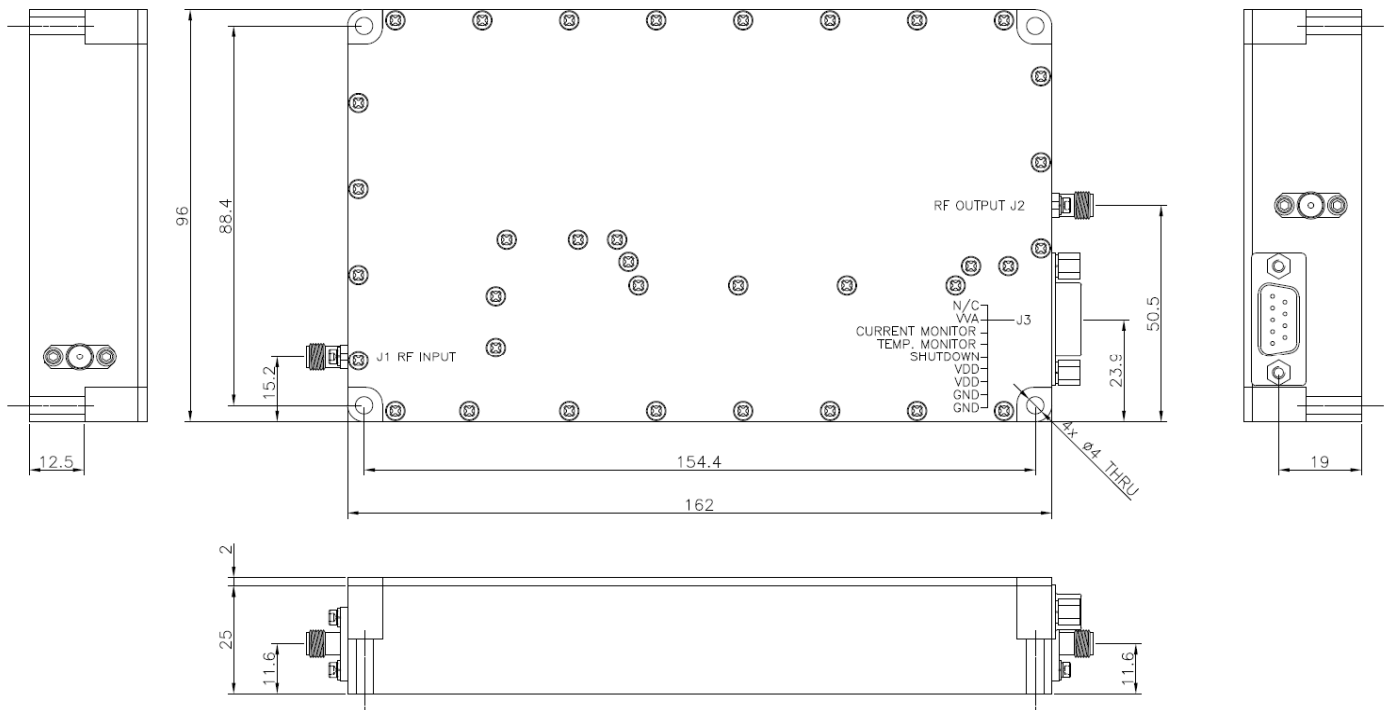
Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units	Comment
PASSBAND						
Operating Frequency Range	$F_{CARRIER}$	20		520	MHz	CW $A_{RF_MAX} - A_{RF_MIN}$ Within the F_{SIG} bandwidth into 50Ω 40 dBm/tone, $\Delta = 1$ MHz 2_{ND} , at rated P_{OUT} 3_{RD} , at rated P_{OUT}
Power Output	P_{OUT_MIN}	100			Watts	
Small Signal Gain	A_{RF_MIN}	50			dB	
Power Gain Flatness				3.0	dB _{P-P}	
Input Return Loss	RL_{IN}	10			dB	
2-tone Intermodulation (IMD)			-30		dBc	
Harmonics			-25		dBc	
			-15		dBc	
Non Harmonic Spurious				-60	dBc	
Power						
Operating Voltage	V_{DD}	24		30	V_{DC}	Without damage
Current Consumption	I_{DD}			9	A	
Max Input Power	P_{IN_MIN}			+8	dBm	
Load VSWR Protection			$\infty : 1$			
Turn on / Off Speed				5	μSec	

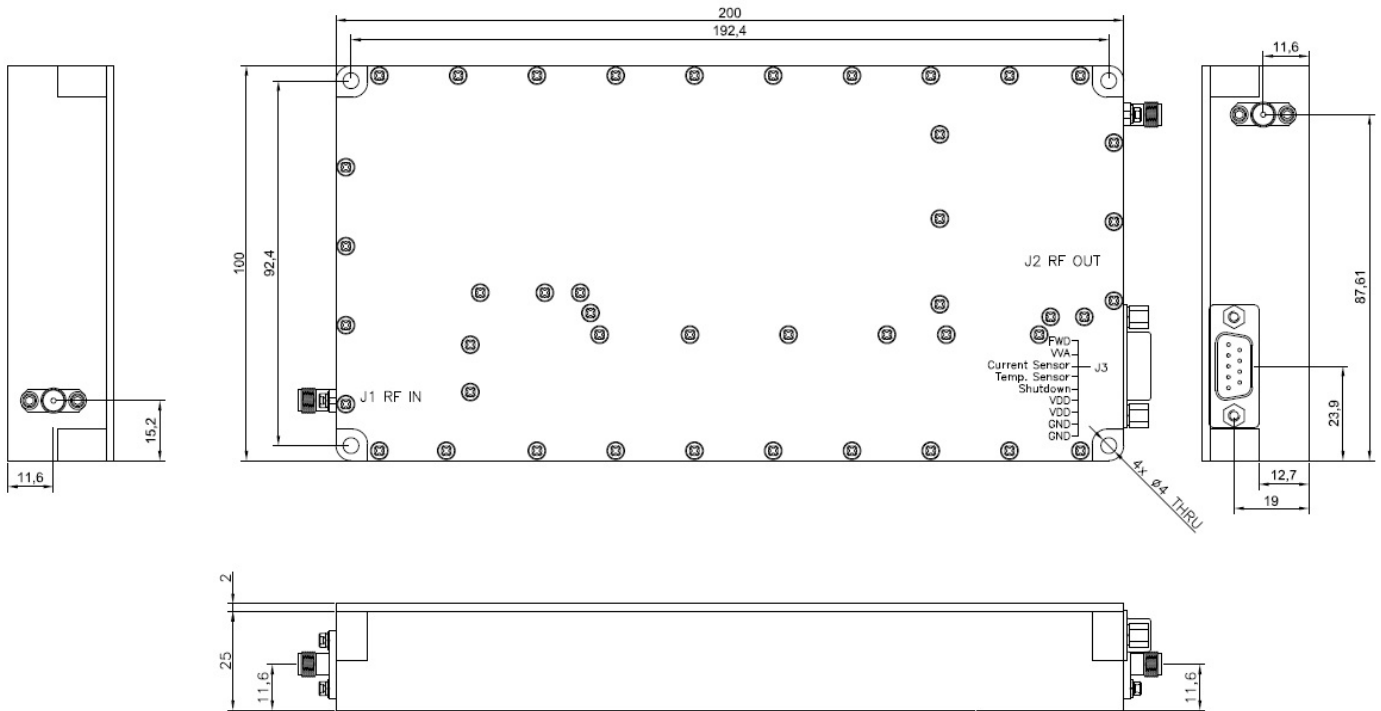
Environmental & Physical

Parameter	Symbol	Min.	Typ.	Max.	Units	Comment
Operating Case Temperature	T_{OC}	-30		+75	°C	
Storage Temperature	T_{STR}	-40		+85	°C	
Relative Humidity		5		95	%	Non-condensing
Dimensions			Option – 00 162 x 96 x 27 Option – 01 200 x 100 x 27		mm	Excluding connectors
Weight				700	gr.	
RF Connectors IN / OUT			SMA female			
DC Power / Interface Connector			9-pin Hybrid D-Sub			
Cooling			External Heat Sink			Forced air required
D-Sub Connector Pin Assignments						
1 FWD			Option 101 – Analog Forward Power Indicator			
2 VVA			Option 103 – Analog Gain Control			
3 Current Sensor			$I_D @ 20$ mV / 100 mA typ.			
4 Temperature Sensor			$V_T @ 10$ mV / °C + 500 mV typ.			
5 Shutdown			TTL			
6, 7 V_{DD}			28 V_{DC}			
8, 9 GND			Ground			

Case Outline (Standard)



Case Outline (Option 01)



Revision History

Date	Rev.	Orig.	Details of Revision
20150317	A	DPD	Initial

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