# Solid State High Power Amplifier

**6.0 – 18.0 GHz, Wide Instantaneous Bandwidth, Built-in protection**

## Broadband Series: PA1068

## FEATURES

**Class A GaAsFET design**
**6.0 – 18.0 GHz**
**10 Watt output power**
**40 dB gain**
**12 Volt operation**

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

**Available as a module or rack mounted**

## APPLICATIONS

**Broadband jamming**
**Electronic warfare**
**EMI / EMC test equipment**

## Wideband. Agile. Powerful. Compact.

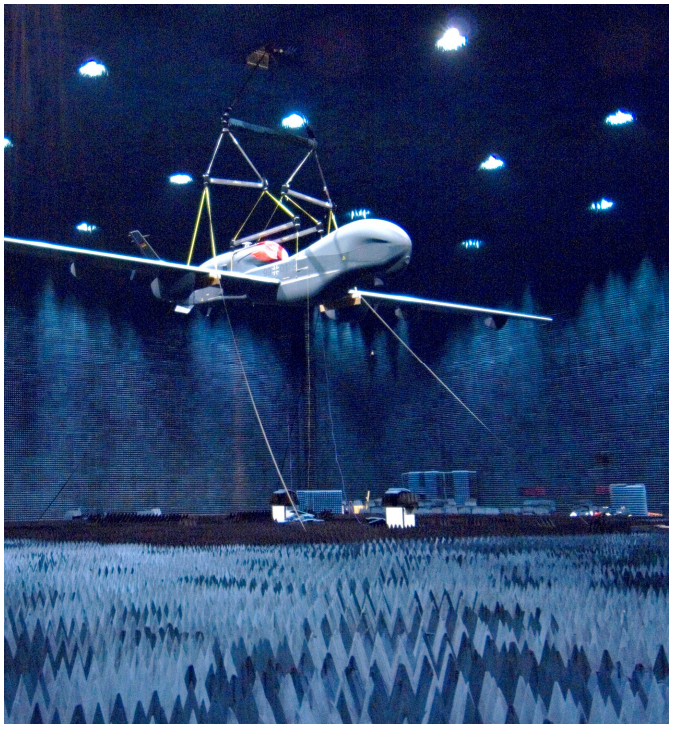
***Control, use or deny the spectrum.***

The first task is to get your message through. The second is to prevent the other guy from getting *his* message through. MtronPTI's PA1068 Solid State Power Amp provides up to 10 Watts CW across the full bandwidth with better than 4.0 $dB_{P-P}$ gain flatness to meet the needs of broadband spectrum control.

With full power operation from 6.0 GHz to 18 GHz and built in VSWR protection, the PA1068 has 40 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 PA1068 may be custom integrated with power supplies, cooling and communications interface as a rack mountable unit for laboratory or fixed location applications.



Euro Hawk EMC testing – U.S. Air Force photo by Edward Cannon (RELEASED)




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2525 Shader Road, Orlando FL 32804
Mtronpti.com 407-298-2000

## Electrical Characteristics

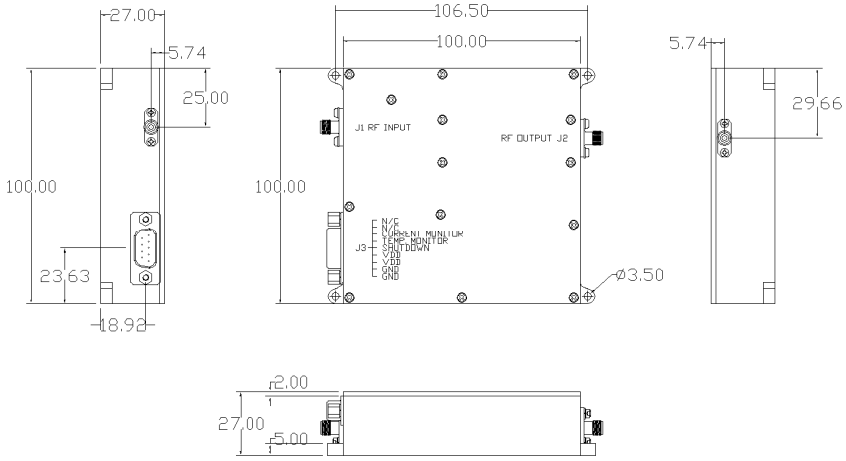
| Parameter | Symbol | Min. | Typ. | Max. | Units | Comment |
|---|---|---|---|---|---|---|
| PASSBAND | | | | | | |
| Operating Frequency Range | $F_{CARRIER}$ | 6 | | 18 | GHz | |
| Power Output | $P_{OUT_MIN}$ | 10 | | | Watts | CW |
| Small Signal Gain | $A_{RF_MIN}$ | 40 | | | dB | |
| Power Gain Flatness | | | | 4.0 | $dB_{P-P}$ | $A_{RF_MAX} - A_{RF_MIN}$ |
| Input Return Loss | $RL_{IN}$ | 10 | | | dB | Within the $F_{SIG}$ bandwidth into 50Ω |
| Harmonics | | | | -20 | dBc | At rated $P_{OUT}$ |
| Non Harmonic Spurious | | | | -60 | dBc | |
| Noise Figure | NF | | | 8.0 | dB | |
| Power | | | | | | |
| Operating Voltage | $V_{DD}$ | 11.5 | | 12.5 | $V_{DC}$ | |
| Current Consumption | $I_{DD}$ | | | 11 | A | |
| Max Input Power | $P_{IN_MIN}$ | | | +8 | dBm | Without damage |
| Load VSWR Protection | | | ∞ : 1 | | | |

## Environmental & Physical

| Parameter | Symbol | Min. | Typ. | Max. | Units | Comment |
|---|---|---|---|---|---|---|
| Operating Case Temperature | $T_{OC}$ | -20 | | +75 | ℃ | |
| Storage Temperature | $T_{STR}$ | -40 | | +85 | ℃ | |
| Relative Humidity | | 5 | | 95 | % | Non-condensing |
| Dimensions | | | 100 x 100 x 27 | | mm | Excluding connectors |
| Weight | | | TBD | | | |
| RF Connectors IN / OUT | | | SMA Female | | | Cover Flange |
| DC Power / Interface Connector | | | 9-pin D-Sub | | | |
| Cooling | | | External Heat Sink | | | Forced air required |

| D-Sub Connector Pin Assignments | | |
|---|---|---|
| 1 | N/C | N/C |
| 2 | N/C | N/C |
| 3 | Current Sensor | $I_D$ @ 20 mV / 100 mA typ. |
| 4 | Temperature Sensor | $V_T$ @ 10 mV / ℃ + 500 mV typ. |
| 5 | Shutdown | TTL |
| 6, 7 | $V_{DD}$ | 12 $V_{DC}$ |
| 8,9 | GND | Ground |

## Case Outline




## Revision History

| Date | Rev. | Orig. | Details of Revision |
|---|---|---|---|
| 20141118 | A | DPD | Initial release in 2015 format |

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2525 Shader Road, Orlando FL 32804
Mtronpti.com 407-298-2000