# HD35251
# SOLID STATE HIGH POWER PULSE AMPLIFIER

**FEATURES**

Ruggedized, compact Class AB high power pulse SSPA designed for high reliability IFF applications such as Secondary Surveillance Radar (SSR) applications, IFF Modes 1, 2, 3/A and Mode C. Standard features include protection against over-temperature, excess VSWR excess modulation (pulse width and duty cycle). An internal capacitive bank provides low output droop over extended pulse widths. Input pulse trigger is accomplished through TTL compatible level signals.



**ELECTRICAL SPECIFICATIONS** : 50Ω, 25°C

| Parameter | Specification | | | Notes | |
|---|---|---|---|---|---|
| Operating Frequency Range | 1030 & 1090 MHz | | | | |
| Power Output @ Pulse | 2000 Watt Min | | | Pin = 65 Watt Typ, Peak Pulse | |
| Pulse Characteristics | **Width (tp)** | **Duty (δ)** | **Droop** | **Rise / Fall** | |
| | 32 µS Max | 4 % Max | 1.0 dB Max | 50 - 100 nS | |
| Modulation | PCM | | | | |
| Class of Operation | AB/C | | | LDMOS transistors design | |
| Power Gain | 15 dB ± 2.0dB | | | Pin = 65 Watt for full power | |
| Input Return Loss | -14 dB Max | | | | |
| Harmonics $2^{nd}$/ $3^{rd}$ | -40 / -50 dBc Typ | | | At rated Pout | |
| Operating Voltage | 46 VDC Nom | | | | |
| Current Consumption | 7.0 Amp Avg Max | | | δ = 4%, tp = 32µS | |
| Load VSWR Protection | ∞ : 1 (output isolator) | | | <1 minute at rated Pout | |

**ENVIRONMENTAL CHARACTERISTICS**

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

**MECHANICAL SPECIFICATIONS**

| Parameter | Specification | Notes |
|---|---|---|
| Dimensions | 245 x 200 x 40 mm | Excluding connectors |
| Weight | 3.2 Kg. | |
| RF Connectors In/Out | SMA Female / Type-N Female | |
| DC Power / Interface Connector | 7-Pin Hybrid D-Sub | 7W2 |
| Cooling | External Heatsink | Forced air required |

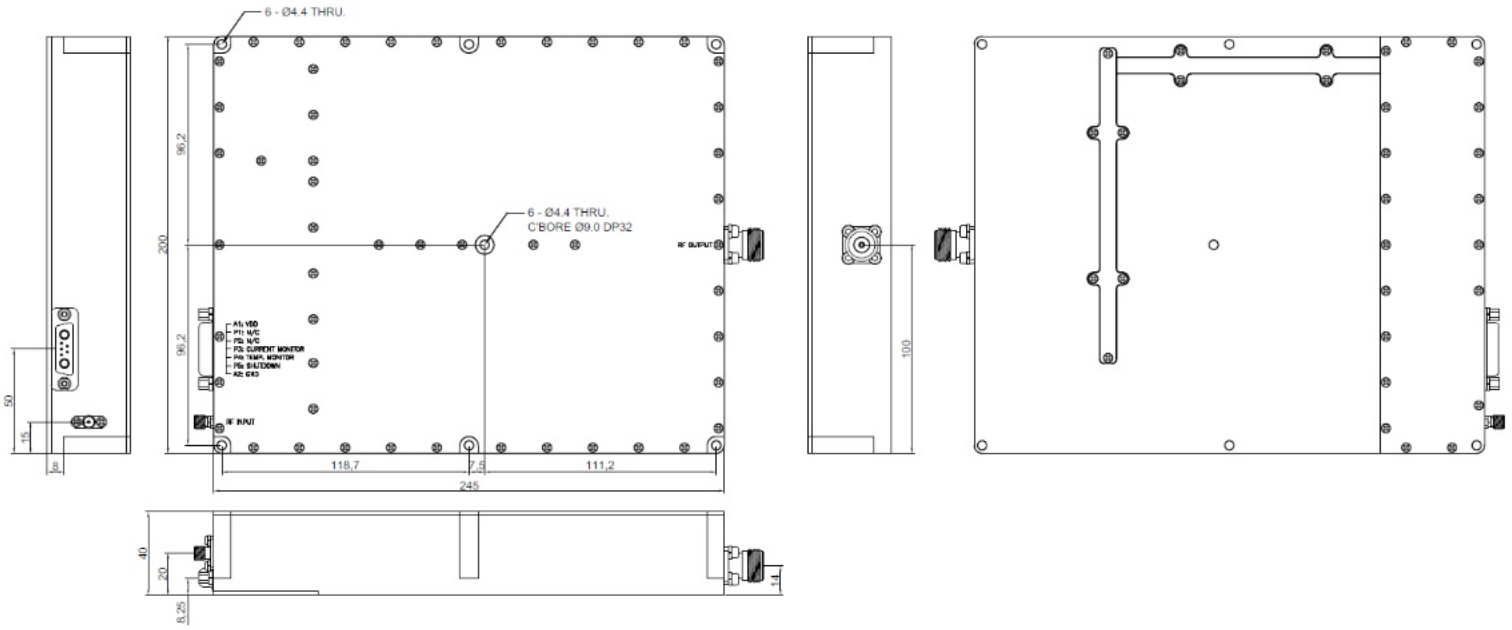
**D-SUB CONNECTOR PIN ASSIGNMENT**

| Pin | Function | Description |
|---|---|---|
| P1 | N/C | N/C |
| P2 | N/C | N/C |
| P3 | CURRENT SENSOR | $I_D$@20mV/100mA Typ |
| P4 | TEMP SENSOR | $V_T$@10mV/°C + 500mV Typ |
| P5 | SHUTDOWN | Enable = TTL "High" - Disable = Open or TTL "Low" |
| A1 | VDD | +46VDC |
| A2 | GND | Ground |

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Specifications subject to change without notice. Specifications and drawings may vary with selected options.

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## OUTLINE DRAWING




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