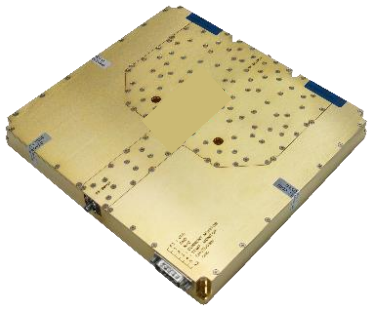
# HD31861
# SOLID STATE HIGH POWER AMPLIFIER

**FEATURES**

Class AB linear GaN design
Instantaneous bandwidth
Suitable for X-Band high power pulse applications
Small form factor and light weight
Built-in protection circuits
High reliability and ruggedness



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

| Parameter | Specification | | | Notes | |
|---|---|---|---|---|---|
| Operating Frequency Range | 7.5 - 10.0 GHz | | | | |
| Pulse Power Output | 300 Watt Typ | | | Peak pulse | |
| Power Gain | 55 dB Nom | | | | |
| Power Gain Flatness | 3.0 dB p-p Max | | | | |
| Input Pulse Characteristics | **Width** | **Duty** | **PRF** | **Droop** | |
| | 0.2 - 100 µS | 1 % | 10 KHz | <0.5 dB | |
| Input / Output Return Loss | -10 dB Max | | | Relative to 50 Ohm | |
| Harmonics | -30 dBc Typ | | | At rated Pout | |
| Spurious | -60 dBc Max | | | Non-harmonics | |
| Operating Voltage | 40 VDC Nom | | | | |
| Efficiency | 20 % Typ | | | At rated Pout | |
| Input Power Protection | +3 dBm Max | | | <10 Sec without damage | |
| Load VSWR Protection | 3 : 1 Max | | | <1 minute @ 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 | 220 x 235 x 27 mm | |
| Weight | 3 Kg. | |
| RF Connectors In/Out | Hi-Freq. SMA female | Optional WR112 |
| DC Power / Interface Connector | 7-Pin Hybrid D-Sub | |
| Cooling | External Heatsink | Forced air required |

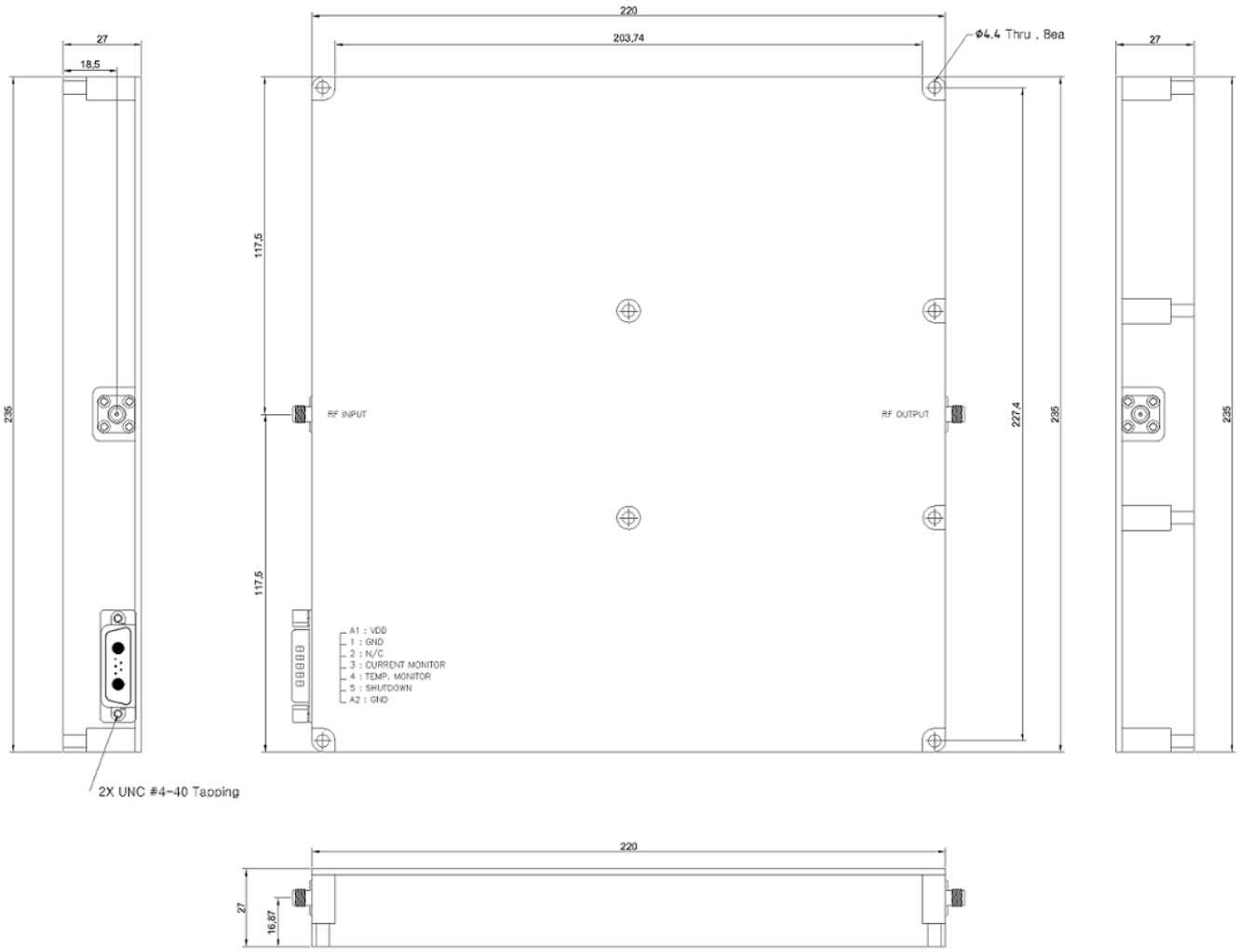
**D-SUB CONNECTOR PIN ASSIGNMENT**

| Pin | Function | Description |
|---|---|---|
| 1 | N/C | |
| 2 | N/C | |
| 3 | CURRENT SENSOR | $I_D$@50mV/100mA Typ |
| 4 | TEMP SENSOR | $V_T$@10mV/°C + 500mV Typ |
| 5 | SHUTDOWN | TTL “Hi” = Disable Function @ <50mS |
| A1 | VDD | 40VDC |
| A2 | GND | Ground |

HD Communications Corp. 338 Jericho Tpke. Ste 387
Syosset, NY 11791
Tel: (631) 588-3877 Email: sales@hdcom.com

# HD31861
# SOLID STATE HIGH POWER AMPLIFIER

**OUTLINE DRAWING**





HD Communications Corp. 338 Jericho Tpke. Ste 387
Syosset, NY 11791
Tel: (631) 588-3877 Email: sales@hdcom.com