HD Communications Corp.

# HD31840
# SOLID STATE HIGH POWER AMPLIFIER

**FEATURES**

Class AB linear LDMOS design
Suitable for S-Band long Pulse applications
Built-in monitoring and protection circuits
Hermetically sealed, high reliability and ruggedness

**ELECTRICAL SPECIFICATIONS**

| Parameter | Specification | | | Notes | |
|---|---|---|---|---|---|
| Operating Frequency Range | 2.7 - 3.1 GHz | | | | |
| Peak Output Power | 1300 Watt Min | | | | |
| Pulse Characteristics | **Width (tp)** | **Duty (δ)** | **PRF** | **Droop** | |
| | 1 - 250 µS | 10 % Max | - | 1 dB Max | |
| Power Gain | 20 - 30 dB Nom | | | | |
| Rise / Fall Time | 100 nS Max @ Psat | | | | |
| Switching Delay Time (Td) | 300 nS Typ | | | | |
| Power Gain Flatness | 2.0 dB p-p Max | | | | |
| Input Return Loss | 10 dB Min | | | Relative to 50 Ohm | |
| Harmonics | -40 dBc Typ | | | At rated Pout | |
| Spurious | -60 dBc Max | | | Non-harmonics | |
| Operating Voltage | 50 VDC Nom | | | | |
| Current Consumption | 9.5 Amp Ave / 95 Amp Peak Max | | | δ = 10% | |
| Nominal Input Power | +7 dBm Nom | | | | |
| Load VSWR | 5 : 1 Min | | | | |

**ENVIRONMENTAL CHARACTERISTICS**

| Parameter | Specification | Notes |
|---|---|---|
| Operating Case Temperature | 0 to +60 °C | |
| Storage Temperature | -40 to +85 °C | |
| Relative Humidity | 95 % Max | Non Condensing |

**MECHANICAL SPECIFICATIONS**

| Parameter | Specification | Notes |
|---|---|---|
| Dimensions | 300 x 220 x 43 mm | Excluding Connectors |
| Weight | TBD | Max Weight |
| RF Connectors In/Out | SMA female / Type-N female | |
| DC Power / Interface Connector | Feed-thru | |
| Cooling | External Heatsink | Forced air required |

**FEED-THRU PIN ASSIGNMENT**

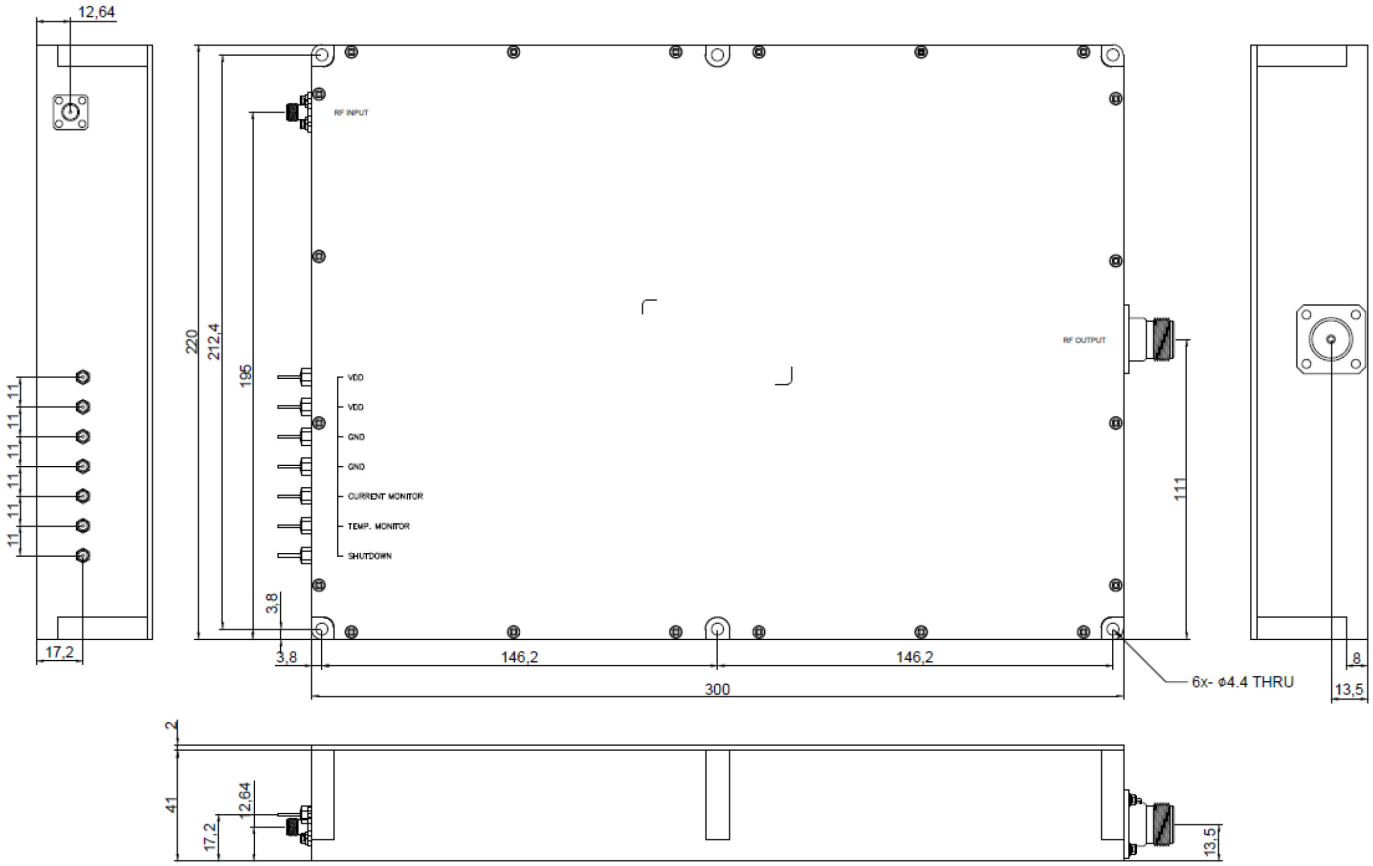
| Pin # | Function | Description |
|---|---|---|
| 1 | VDD | +50VDC |
| 2 | VDD | +50VDC |
| 3 | GND | Ground |
| 4 | GND | Ground |
| 5 | CURRENT SENSOR | $I_D$@20mV/100mA Typ |
| 6 | TEMP SENSOR | $V_T$@10mV/°C + 500mV Typ |
| 7 | SHUTDOWN | TTL "Hi" = Disable Function @ 50mS (**Option**: 5µS Trigger/Pulse Modulator) |

332C Dante Ct. Holbrook, NY 11741 Phone: 631-588-3877 Fax: 631-648-0518
www.rfamplifiers.com www.rfcomp.com sales@hdcom.com

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## OUTLINE DRAWING





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