HD Communications Corp.

HD31828-1-A-B
SOLID STATE HIGH POWER AMPLIFIER

FEATURES

Class AB linear GaN design
Suitable for high power P, L & S-Bands high power pulse applications
Built in fast pulse modulator
Built-in monitoring and protection circuits
High reliability and ruggedness
Built-in isolator



ELECTRICAL SPECIFICATIONS@ 50VDC, 50Ω, 25°C

Parameter		Specification			Notes
Model	**HD31828-1**	**HD31828**	**HD31828-A**	**HD31828-B**	
Operating Frequency Range	0.4 -1.0 GHz	1.0 - 2.0 GHz	0.4 - 2.0 GHz	1.0 - 2.5 GHz	
Peak Output Power	1000 Watt Min / 1200 Watt Typ				With 10% duty cycle
Pulse Characteristics	**Width (tp)**	**Duty(δ)**	**PRF**	**Droop**	
	100 µS	10 %		1 dB [1]	Max rating
Rise / Fall Time	<75 nS Typ				10% - 90% of pulse output
Switching Delay Time (Td)	200 nS Typ				
Power Gain	60 dB Nom				
Power Gain Flatness	2.0 dB p-p Typ				
Input / Output Return Loss	12 dB Min				Relative to 50 Ohm
Harmonics	-20 dBc Typ				At rated Pout
Non-Harmonics Spurious	-65 dBc Max				
Operating Voltage	50 VDC Nom				
Current Consumption	15 Amp Ave / 100 Amp Peak Max				δ = 10%, PW 100µS
Input Power Protection	+5 dBm Max				<10 Sec without damage
Load VSWR Protection	10 : 1 Max				<1 minute at rated Pout
Pulse Trigger / Modulator Speed	1 µS Max				

ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification	Notes
Operating Case Temperature	-20 to +75°C	
Storage Temperature	-40 to +85 °C	
Relative Humidity	95 % Max	Non-condensing

MECHANICAL SPECIFICATIONS

Parameter	Specification	Notes
Dimensions	365 x 250 x 43 mm AMP1145P-A: 380 x 250 x 43 mm	Outline drawing
Weight	6.5Kg.	
RF Connectors In/Out	SMA female / Type-N female	
DC Power / Interface Connector	7-Pin Hybrid D-Sub	7W4
Cooling	External Heatsink	Forced air required

Notes:

1. Required 10KuF Ext. Cap

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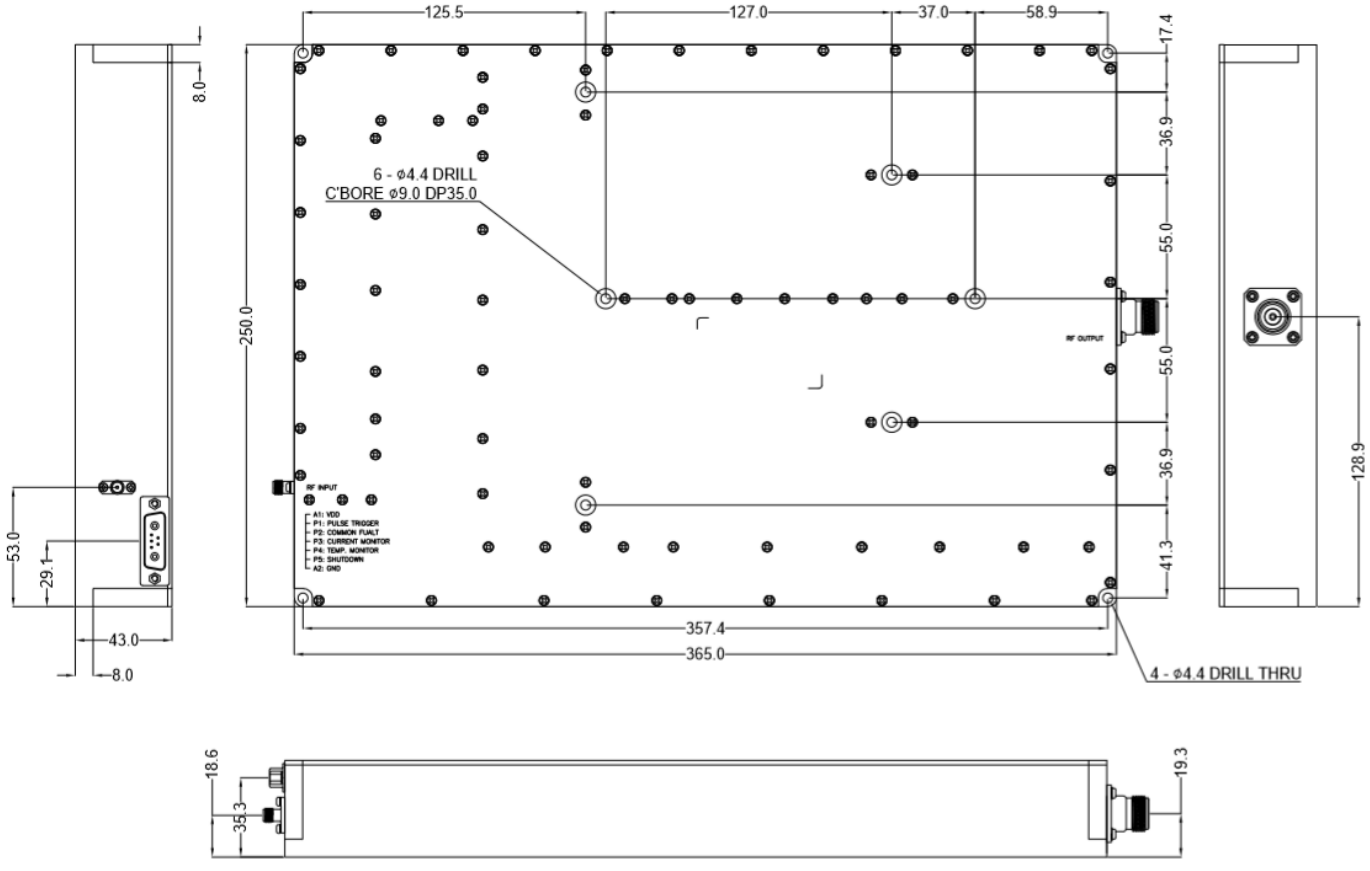
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D-SUB PIN ASSIGNMENT

Pin #	Function	Description	
A1	VDD	+50VDC External	
A2	GND	Ground	
P1	PULSE TRIGGER	TTL High (>2.5V) HPA ON TTL Low (<0.7) Open HPA OFF	
P2	COMMON FAULT	Input: TTL High (>2.5V) HPA OFF TTL Low (<0.7V) / Open HPA ON Output: Fault On TTL High (>5V) Fault Off Low (0.7V)	Fault: Current, Temp, Duty, Rev Power
P3	CURRENT SENSOR	Output: I_D @ 20mV/100mA Typ	
P4	TEMP SENSOR	Output: V_T @ 10mV/°C + 500mV Typ	
P5	SHUTDOWN	TTL: High (>2.5V) / Open, HPA ON TTL Low (<0.7) / GND HPA OFF	

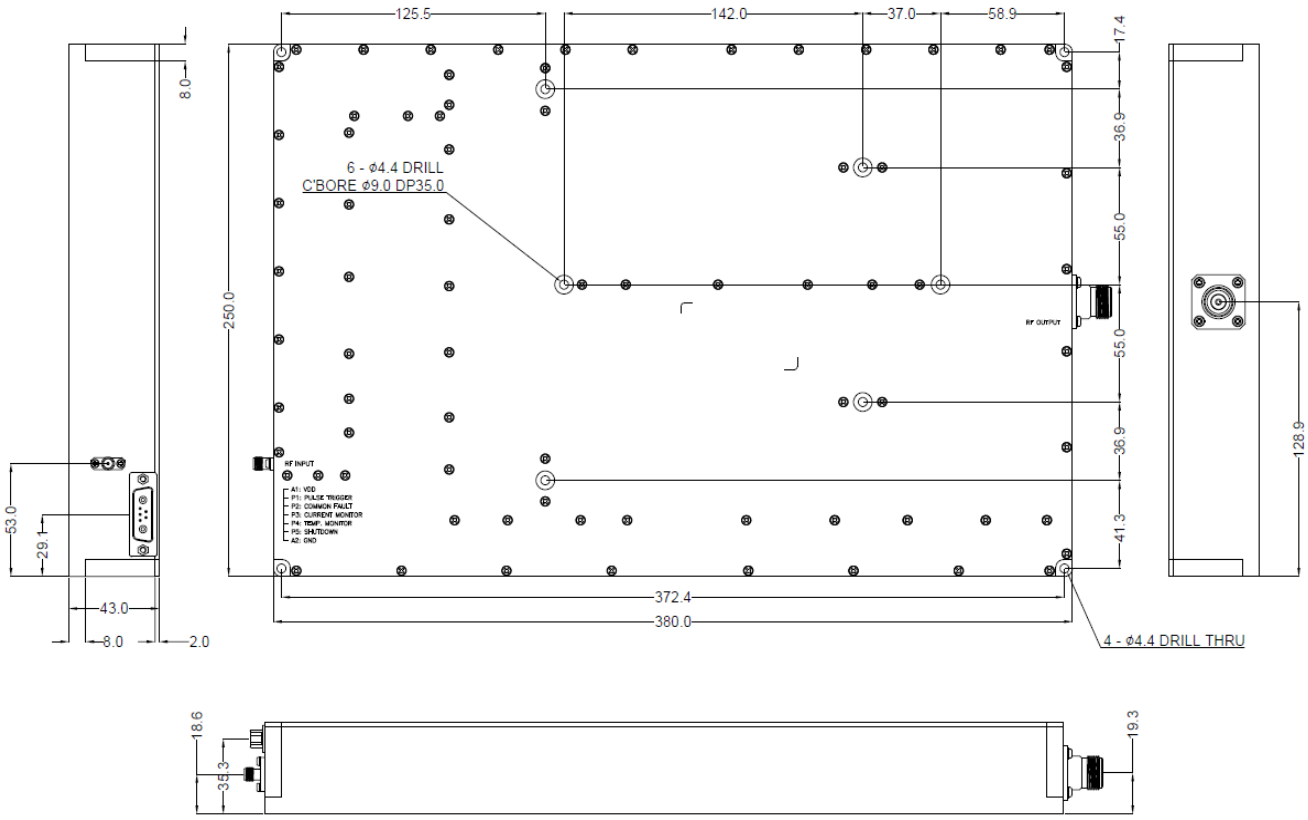
OUTLINE DRAWING



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OUTLINE DRAWING – HD31828-A



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