HD31848
SOLID STATE HIGH POWER PULSE AMPLIFIER

FEATURES

Class AB linear GaN design
High dynamic range
Suitable for airborne and phase array X-Band pulse applications
Built-thermal, load VSWR, pulse width, duty cycle protections
High reliability and ruggedness

ELECTRICAL SPECIFICATIONS: 42VDC, 25°C

Parameter	Specification			Notes
Operating Frequency [1]	8.0 - 10.0 GHz			Any 1000MHz BW
Peak Pulse Output Power	500 Watt Min			Peak Pulse
Peak Power Gain [2]	57 dB Min			Lower gain, phase & gain matching for combining is available
Input Pulse Characteristics	**Width (tp)**	**Duty (δ)**	**PRF**	
	0.1 - 100 µS	10 %	10 KHz	Nominal values
Pulse Rise / Fall Time	50 nS Max			
Pulse Droop	0.8 dB Max			With 100 µS
Input Return Loss	12 dB Min			Relative to 50 Ohm
Harmonics	-30 dBc Nom			
Spurious	-60 dBc Max			Non-harmonics or Gaussian
Operating Voltage	42 VDC Nom			
Current Consumption	4.8 Amp Avg. Typ			With 10% duty cycle
Load VSWR	∞ : 1			External output Isolator required

ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification	Note
Operating Case Temperature	-20 to +70°C	
Storage Temperature	-40 to +85 °C	
Relative Humidity	5 to 95 %	Non-condensing

MECHANICAL SPECIFICATIONS

Parameter	Specification	Notes
Dimensions	250 x 175 x 27 mm	Excluding connectors
Weight	4 Kg.	
RF Connectors In/Out	SMA female / Type N female	WR-90 optional
DC Power / Interface Connector	7-Pin Hybrid D-Sub	
Cooling	External Heatsink	Forced air required

Notes:

1 Specify up to any 1000MHz bandwidth within 8.0-10GHz frequency range.
2 To combine 2 or more modules, specify lower gain, phase and gain matching when ordering.

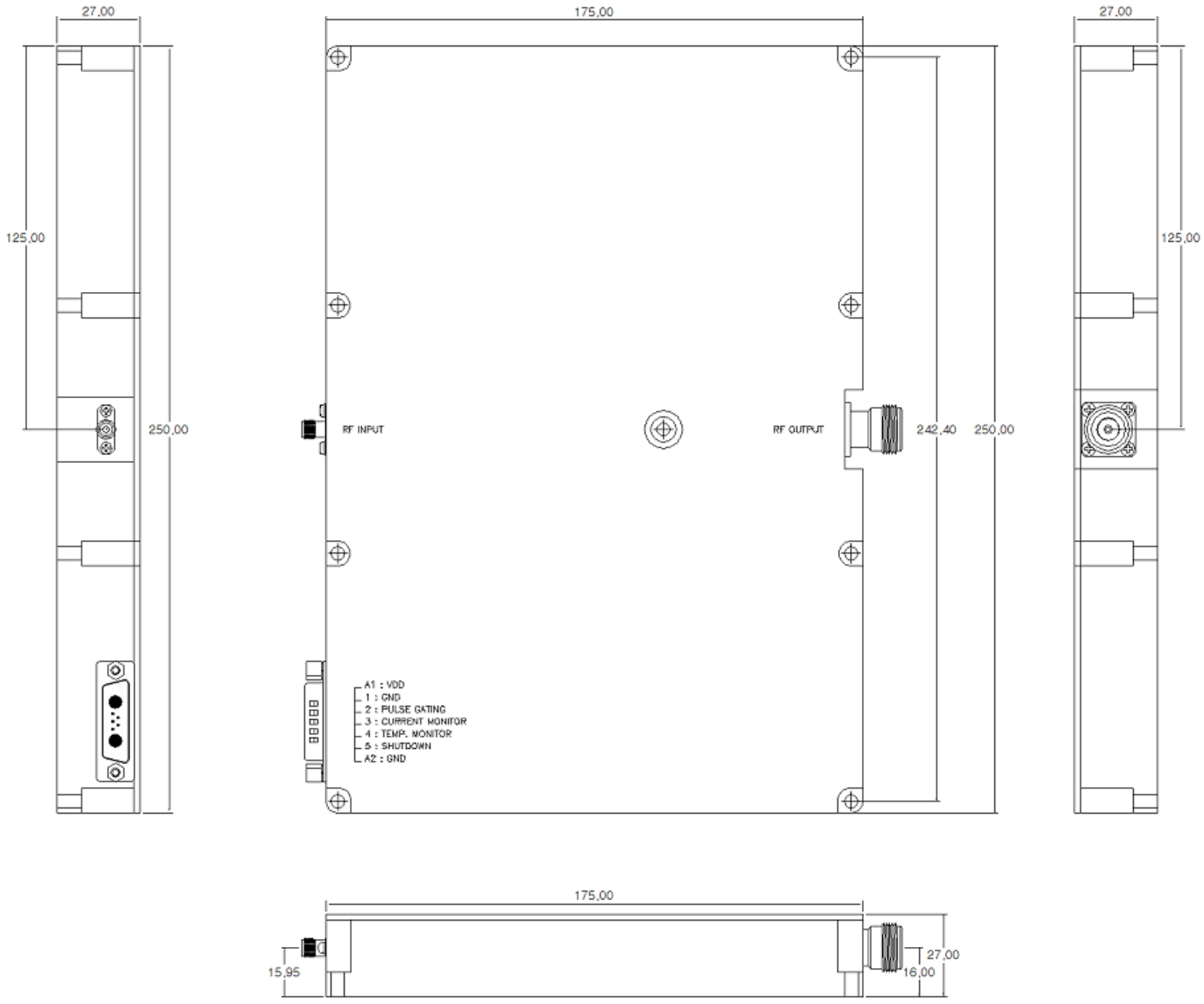
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D-SUB CONNECTOR PIN ASSIGNMENT

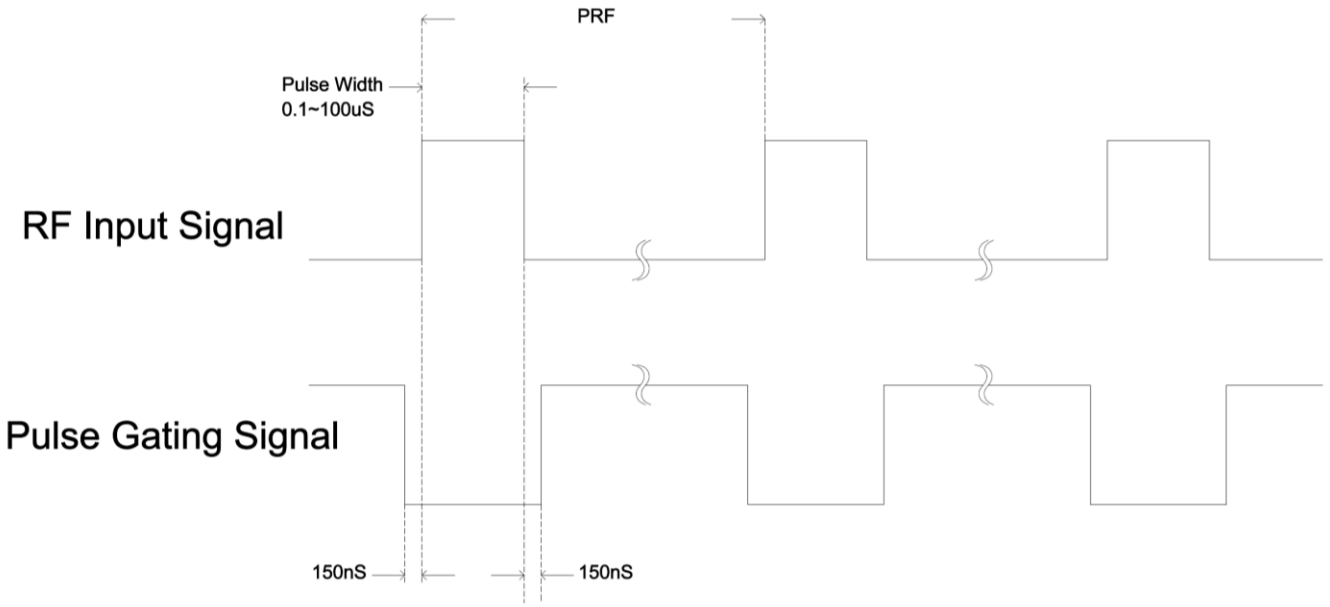
Pin	Function	Description
1	GND	Ground
2	Pulse Gating Control	TTL “Hi” = Disable, TTL “Lo” = Enable
3	CURRENT SENSOR	I_D@50mV/100mA Typ
4	TEMP SENSOR	V_T@10mV/°C + 500mV Typ
5	SHUTDOWN	TTL “Hi” = Disable, TTL “Lo” or Open = Enable
A1	VDD	42VDC
A2	GND	Ground

OUTLINE DRAWING



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GATING TIMING DIAGRAM



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