HD30989
SOLID STATE HIGH POWER PULSE AMPLIFIER

Communications Corp.

FEATURES

Class AB GaN Devices
Designed for high power X-Band Pulse applications
Built-in protection circuits
High reliability and ruggedness

ELECTRICAL SPECIFICATIONS

Parameter	Specification			Notes	
Operating Frequency Range	9.1 - 9.5 GHz			BW = 400 MHz	
Peak Pulse Output @ Psat	400 Watt Min / 500W Typ				
Peak Pulse Output @ P1dB	55 dBm Min				
Power Gain at Peak Power	56 dB Min				
Pulse Characteristics (Max values)	**Width**	**Duty**	**PRF**	**Rise/Fall**	**Droop**
	60 µS	20 %	5 KHz	<75 nS	<0.8 dB
Max Input Power	+10 dBm			No damage	
Power Gain Flatness	1.0 dB p-p Max				
Gain Stability Over Temperature	±0.3 dB Max				
Input VSWR	1.5 : 1 Max			Relative to 50 Ohm	
Output VSWR	2.0 : 1 Max			Relative to 50 Ohm	
Harmonics	-35 dBc Max @ Psat				
Spurious	-65 dBc Max			Non-harmonics	
Switching Delay Time (Td)	300 nS Typical				
Inter-Pulse Noise Level	-164 dBm Typ / -160 dBm Max			Using pulse gating	
Noise Figure	10 dB Max				
Operating Voltage	49 VDC ± 1.0 V				
Current Consumption	60 Amp Peak / 13 Amp Avg.			At 20% Duty-Cycle	
Load VSWR Protection	∞ : 1			Output isolator	

ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification	Note
Operating Case Temperature	-30 to +60 °C	
Storage Temperature	-40 to +70 °C	
Relative Humidity	5 to 95 %	Non Condensation

MECHANICAL SPECIFICATIONS

Parameter	Specifications	Value
Dimensions	235 x 160 x 43 mm	Excluding Connectors
Weight	4 Kg. Max	
DC Power / Interface Connector	Hybrid D-Sub	
Input / Output Connectors	SMA-F / Waveguide (WR90)	
Cooling	External Heatsink	Forced air required

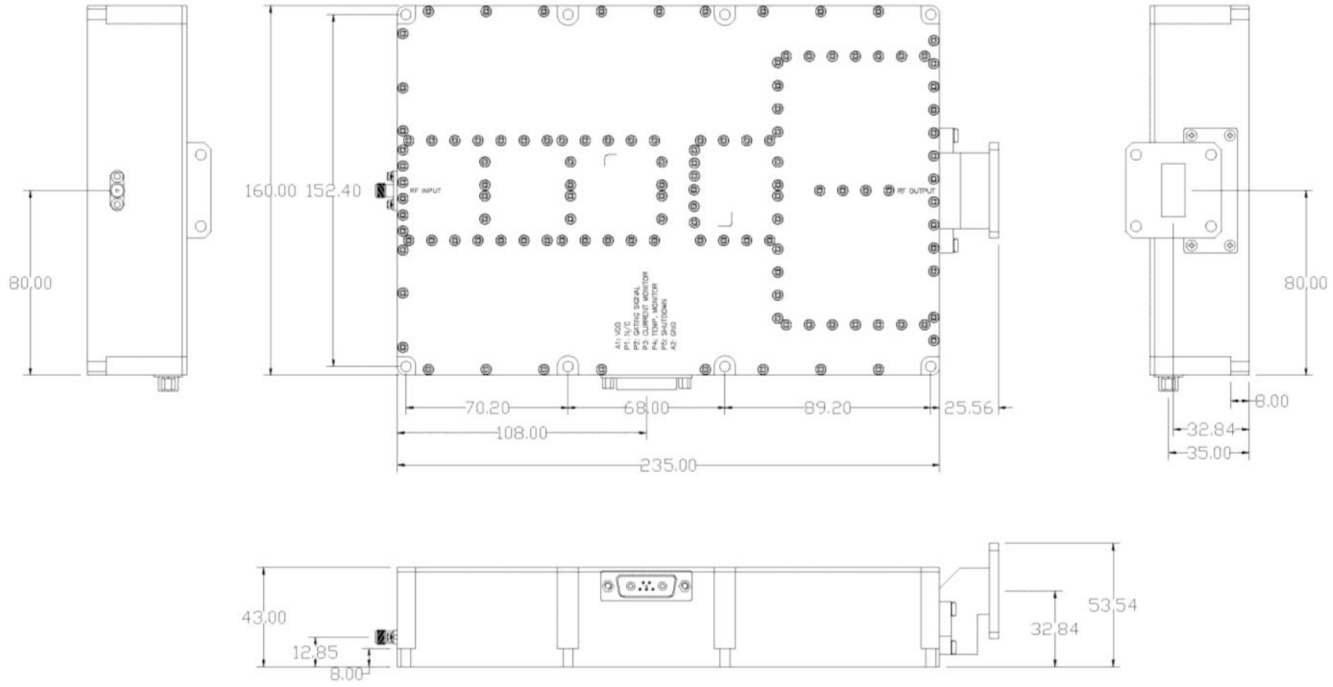
332C Dante Ct. Holbrook, NY 11741 Phone: 631-588-3877 Fax: 631-648-0518
www.rfamplifiers.com www.rfcomp.com sales@hdcom.com

HD30989
SOLID STATE HIGH POWER PULSE AMPLIFIER

I/O INTERFACE

Pin	Function	Test Results
A1	VDD	+49VDC
A2	GND	Ground
P1	N/C	N/C
P2	GATING SIGNAL	TTL "Hi" = Disable Function @ 50mS (**Option**: 5uS Trigger/Pulse Modulator)
P3	CURRENT MONITOR: I_D @ 25mV/100mA	
P4	TEMP. MONITOR: 10mV/°C + 500mV	0.782V @ Room temp = 28.2°C
P5	SHUTDOWN	TTL HIGH

OUTLINE DRAWING (Unit: mm)



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