HD Communications Corp.

HD31851
SOLID STATE HIGH POWER PULSE AMPLIFIER

FEATURES

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

ELECTRICAL SPECIFICATIONS

Parameter	Specification			Notes
Operating Frequency	7.5 - 10.0 GHz			
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	Pulse Width(tp)	Duty Cycle(δ)	PRF	
	0.2 - 100 µS	1 % Nom	10 KHz Max	Nominal values
Pulse Rise / Fall Time	50 nS Nom			
Pulse Droop	0.7 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	30 VDC Nom			
Current Consumption	10 Amp Avg. Typ			With 5% duty cycle
Input Overdrive Protection	+3 dBm Max			
Load VSWR Protection	5 : 1			External output Isolator required for higher load VSWR

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
TBD	TBD	Excluding Heatsink
Weight	TBD	
RF Connectors In/Out	SMA female / Type N female or WR112	
DC Power / Interface Connector	7-Pin Hybrid D-Sub	
Cooling	External Heatsink	Forced air required

Notes:

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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	N/C	
2	Pulse Gating Control	N/A
3	CURRENT SENSOR	I_D@50mV/100mA Typ
4	TEMP SENSOR	V_T@10mV/°C + 500mV Typ
5	SHUTDOWN	TTL "Hi" = Disable Function @ 50mS (**Option**: 5uS Trigger/Pulse Modulator)
A1	VDD	30VDC
A2	GND	Ground

OUTLINE DRAWING

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