HD Communications Corp.

HD31903
SOLID STATE HIGH POWER AMPLIFIER

FEATURES

Class AB linear GaN design
Optimized for C-Band Satcom uplink applications
Suitable for all Single channel modulation standards
Small form factor & light weight
Built-in protection circuits
High reliability and ruggedness



ELECTRICAL SPECIFICATIONS

Parameter	Specification	Notes
Operating Frequency Range	7.190 - 7.235 GHz	
Power Output	80 Watt Min	CW
Power Gain	49 dB Min	
Power Gain Flatness	1.0 dB p-p Max	Constant input power
Input / Output Return Loss	10 dB Min	Relative to 50 Ohm
2-Tone Intermodulation (IMD)	-30 dBc Typ	38 dBm/Tone, Δ = 1 MHz
Harmonics	-20 dBc Typ	At rated Pout
Non-Harmonics Spurious	-60 dBc Max	
Operating Voltage	32 VDC Nom	
Current Consumption	19 Amp Max	At rated Pout
Max Input Power Protection	+5 dBm	10 Sec Without damage
Load VSWR Protection	5 : 1 Max	1 Minute @ rated output

ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification	Notes
Operating Case Temperature	-40 to +60 °C	
Storage Temperature	-40 to +85 °C	
Relative Humidity	5 to 95 %	Non-condensing

MECHANICAL SPECIFICATIONS

Parameter	Specification	Notes
Dimensions	250 x 200 x 25 mm	Excluding Connectors
Weight	1 Kg.	
RF Connectors In/Out	SMA female	
DC Power / Interface Connector	9 Pin D-Sub	
Cooling	External Heatsink	Forced air required

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D-SUB CONNECTOR PIN ASSIGNMENT

Pin	Function	Description
1	FWD	N/C
2	VVA	N/C
3	CURRENT SENSOR	I_D@20mV/100mA Typ
4	TEMP SENSOR	V_T@10mV/°C + 500mV Typ
5	SHUTDOWN	Enable = TTL “Low” or 0V / Disable = TTL “High” (>3.2V)
6, 7	VDD	32VDC
8, 9	GND	Ground

OUTLINE DRAWING

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