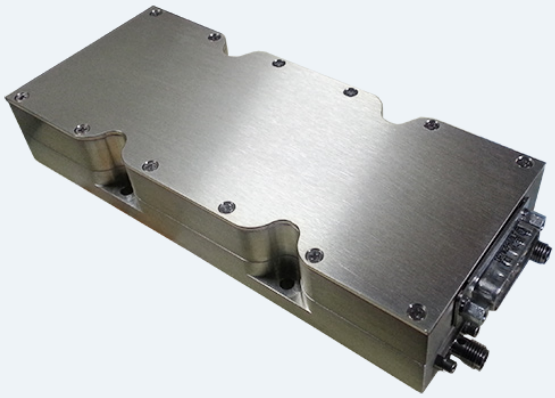

DESCRIPTION

This class AB GaN module is designed, and proven to be reliable, for Low Earth Orbit satellite applications. The TA1165 is capable of supporting any signal type and modulation format, including but not limited to DVB, DVB-DSNG, and DVB-S2. This unit is efficient, linear and lightweight. This unit has extensive flight heritage in low earth orbit.

TA1165

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FEATURES

Wide DC Voltage Input

Over/Under/Reverse Voltage Protection

Temperature Monitor Output Pin

APPLICATIONS

Low Earth Orbit Downlink/Interlink Amplification

DVB (and variants) Data Transmission

CHARACTERISTICS/SPECIFICATIONS

Specifications subject to change without notice. Typical performance at 28VDC at 25°C in a 50Ω system.

RF Specifications

Parameter	Min.	Typ.	Max	Unit
Operating Frequency	5500	—	8500	MHz
Saturated Power Output CW Sweep at Design Limit	42	43	—	dBm
Small Signal Gain	48	52.5	—	dB
Small Signal Gain Flatness	—	—	2	dB (peak to peak)
Input Return Loss	—	—	-14	dB
Tx Switching Time	—	1	2	µS

Power Supply Specifications

Parameter	Min.	Typ.	Max	Unit	Notes
Supply Voltage Range	12	28	30	VDC	
Average Operating Current Draw (Idle)	—	—	0.63	A	28V supply voltage
Average Operating Current Draw, PSat	—	4.5	—	A	28V Supply Voltage, Saturated Power Output

Mechanical Specifications

Parameter	Value	Unit	Notes
Dimensions (L x W x H)	6 x 2.5 x 1.06 (152.4 x 63.5 x 27)	in (mm)	
Cooling	Baseplate Conduction	—	
Weight	17 (482)	oz (g)	

CHARACTERISTICS/SPECIFICATIONS (CONT.)

Specifications subject to change without notice. Typical performance at 28VDC at 25°C in a 50Ω system.

Interface Specifications

Parameter	Value	Notes
RF Connectors (Input / Output)	SMA-F / SMA-F	
Power / Signal Connector	DA7W2PA00LF	Connector appearing on unit (Manufacturer P/N)
Mating Connector	DA7W2SA00LF	Mating connector required for interfacing (Manufacturer P/N)
Test Integration Cable	CBL21	Triad P/N. Not included, available for purchase separately.

Environmental Specifications

Parameter	Min.	Max	Unit
Operating Temperature (Housing Temp.)	-40	85	°C
Storage Temperature	-40	100	°C
Altitude	Low Earth Orbit		
Ingress Protection Rating	IP54		-
Shock / Vibration	Designed to comply with MIL-STD-810 Shock/Vibration Test Methods		-

Protections / Maximum Ratings

Parameter	Value	Unit	Notes
Maximum RF Input (Per Channel)	-11	dBm	CW Power
Over Temp Protection Trip Level	85	°C	Internally Monitored System Temperature
RF Output Open Load Survivability	42	dBm	CW with an open circuit at the antenna port

DC/CONTROL CONNECTORS

Input/Output Pins

Amplifier Connector PN				Triad Cable Part Number
DA7W2PA00LF				CBL21
Pin	**Label**	**Type**	**I/O**	**Notes**
A1	GND	Power	Input	Supply Voltage Return (Ground)
A2	Vin	Power	Input	Supply Voltage - Range Specified in Datasheet
1	TEMP	Signal	Output	Temp Monitor: Temp in DegC = (Vout - 0.5V) *100
2	ENABLE	Signal	Input	TTL High or No Connection = Enable, TTL Low = Disable
3	N/C	N/A	N/A	Not Connected
4	SGND	Signal	N/A	Signal Ground
5	N/C	N/A	N/A	Not Connected

Note: All +VDC and GND pins should be populated as shown.

MECHANICAL DRAWING