

DESCRIPTION

This class AB GaN module is designed for both military and commercial applications. It is capable of supporting any signal type and modulation format, including but not limited to 3-4G telecom, WLAN, OFDM, DVB, and CW/AM/FM. The latest device technologies and design methods are employed to offer high power density, efficiency, and linearity in a small, lightweight package.



FEATURES

- Over / Under / Reverse Voltage Protection
- Over-Temperature Protection
- Optional Heatsink
- Tx / Rx Status Monitor
- Forward Power Measurement
- Temp. Monitor Output
- Manual or Automatic Tx/Rx Switching Available

Specifications subject to change without notice. Typical performance at +12VDC at 25°C in a 50Ω system

Tx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	5300		5900	MHz
PSat Power Output		+40.0		dBm
Gain		25.0		dB
Gain Flatness		1.0		± dB
Input Return Loss	-15			dB
Operating Voltage	+10	+12	+14	VDC
Tx / Rx Switching Time		1.0	2.0	uS

Rx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
P1dB Power Output		+5.0		dBm
Gain		10.0		dB
Gain Flatness			1.0	± dB
Noise Figure		2.5		dB
OIP3		+15.0		dBm
Input Return Loss	-10			dB
Current Draw		100.0		mA

MECHANICAL		
PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	2.3 x 2.3 x 0.45	in
RF Connectors (Input / Output)	SMA-F / SMA-F	--
DC / Control Connector	21 Pin Micro-D	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	4-40 Thru Holes	--
Weight	3	oz.

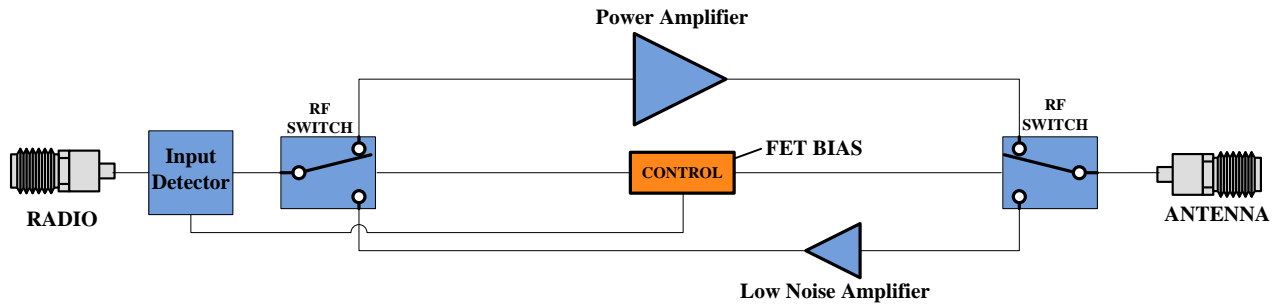
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Humidity Range	0-95		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	17		dBm
PA Baseplate Shutoff Temperature	+85		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		21 PIN MICRO-D FEMALE		
TRIAD CABLE PART NUMBER:		CBL45		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
1-3,12-13	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
4	FWD DET	Tx Amp RMS Power Detector	Output	Analog
5	TEMP	Temp Monitor: Temp in DegC = (Vout - 0.5V) * 100	Output	Analog
6	RAD DET	Radio Input RMS Power Detector		
9-11,20-21	GND	+VDC Supply Return		
7	Status	BDA Status - TTL High = Normal Operation, TTL Low = Error Condition	Output	5V TTL
8	Tx/Rx	TTL High or No Connection = Tx, TTL Low = Rx	Input	3.3V TTL
19	SGND	Signal Ground		
14-18	Reserved	Reserved for future use	--	--

802-11G (20 MHz BW) DATA RATE VS. OUTPUT POWER			
OFDM MODULATION	DATA RATE	POUT (W) MIN.	EVM
64QAM	54 Mbps	2	≤ -27 dB
16QAM	36 Mbps		≤ -21 dB
QPSK	12 Mbps		≤ -15 dB
BPSK	9 Mbps	12	≤ -7 dB

See our [application note](#) that describes how this table was calculated and provides notes on in-system performance

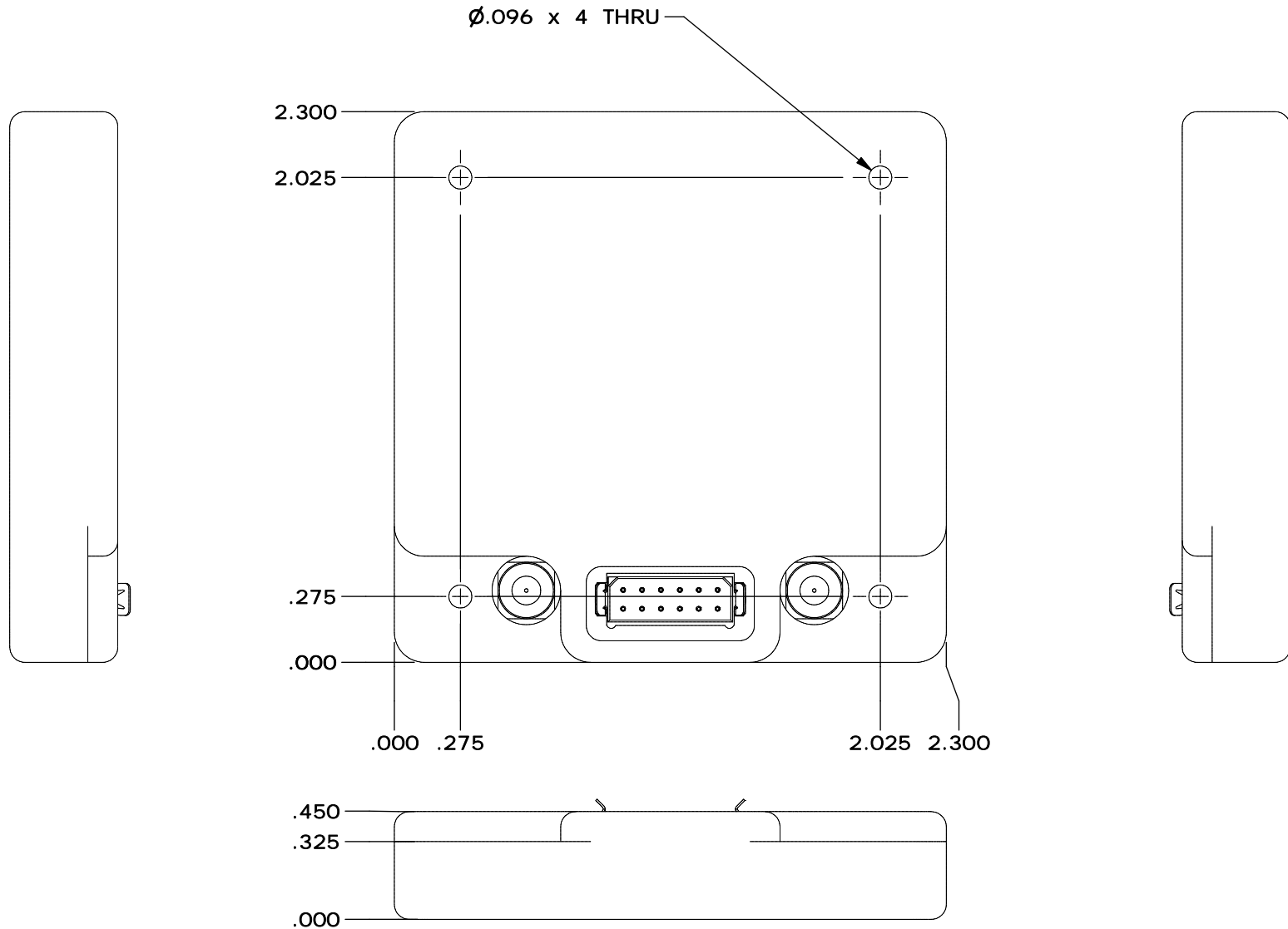
High-Level Block Diagram



Ordering Guide – Configuration Information		
Model Number	Amplifier Option	Heat Sink Option
TTRMXXXX	- XXX	- XXX

Amplifier Options		Heat Sink Options	
Suffix	Description	Suffix	Description
D01	Automatic Tx/Rx Switching	(none)	No Heat Sink Included
D02	Manual Tx/Rx Switching	HS	Standard Heat Sink
DXX	Custom Amplifier Configuration (issued by Triad upon customer request)	HSF	Heat Sink with Integrated Cooling Fan
		HSX	Custom Heat Sink Configuration

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
O	INITIAL RELEASE	3/20/19	SC



DRAWN	scopp	10/3/2013
DESIGNED	scopp	4/25/2018
CHECKED		
ENG APPROVED		
MFG APPROVED		



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Housing Outline 195

DIMENSIONS ARE IN INCHES
UNLESS SPECIFIED OTHERWISE
TOLERANCES
DECIMALS FRACTIONS ANGLES
XX ±.01 ± 1/32 ± 2°
XXX ±.005

SIZE	DWG NO.	REV
A	OL_195	O
SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 1