

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
- Temperature Output
- Manual or Automatic Tx/Rx Switching Available
- High Speed Tx/Rx Switching Control
- Optional Heatsink

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

Tx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	20		1000	MHz
PSat Power Output	+41.0	+43.0		dBm
Gain	30.0	33.0		dB
Gain Flatness		1.0	2.0	± dB
Input Return Loss	-12			dB
Operating Voltage	+27	+28	+30	VDC
Current Draw		2.0	3.0	A
Tx / Rx Switching Time		1.0	2.0	uS

Rx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
P1dB Power Output		+5.0		dBm
Gain	19.0	20.0		dB
Gain Flatness		2.0	3.0	± dB
Noise Figure		4.0		dB
OIP3		+15.0		dBm
Input Return Loss	-8	-10		dB
Current Draw		200.0		mA

MECHANICAL		
PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	2.57 x 2.57 x 0.895	in
RF Connectors (Input / Output)	SMA-F / SMA-F	--
DC / Control Connector	Circular Locking	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	4-40 Thru Holes	--
Weight	5	oz.
Weight With Heatsink	15	oz.

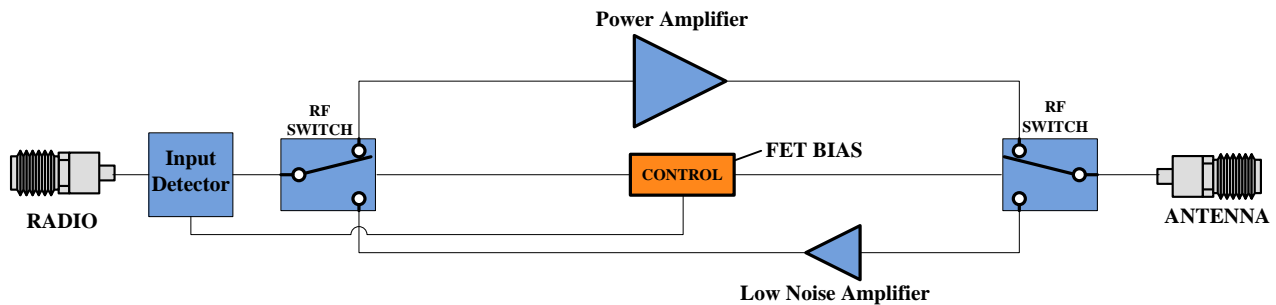
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Storage Temperature	-60	+100	°C
Humidity Range	0-100		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	16		dBm
Load VSWR @ P1dB	Open / Short Output Protection		--
PA Baseplate Shutoff Temperature	+90		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		10 PIN RECTANGULAR MALE		
TRIAD CABLE PART NUMBER:		CBL56		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
1	TEMP	Temp Monitor: Temp in DegC = (Vout - 0.5V) *100	Output	Analog
2	GND	Ground	Power	--
3	Tx/Rx	Tx / Rx Switching (+5V = Tx Amp Active / 0V = Rx Amp Active)	Input	5V TTL
4	GND	Ground	Power	--
5	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
6	GND	Ground	Power	--
7	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
8	GND	Ground	Power	--
9	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
10	GND	Ground	Power	--

802-11G (20 MHz BW) DATA RATE VS. OUTPUT POWER			
OFDM MODULATION	DATA RATE	POUT (W) MIN.	EVM
64QAM	54 Mbps	3	≤ -27 dB
16QAM	36 Mbps	5	≤ -21 dB
QPSK	12 Mbps	15	≤ -15 dB
BPSK	9 Mbps	18	≤ -7 dB

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

High-Level Block Diagram



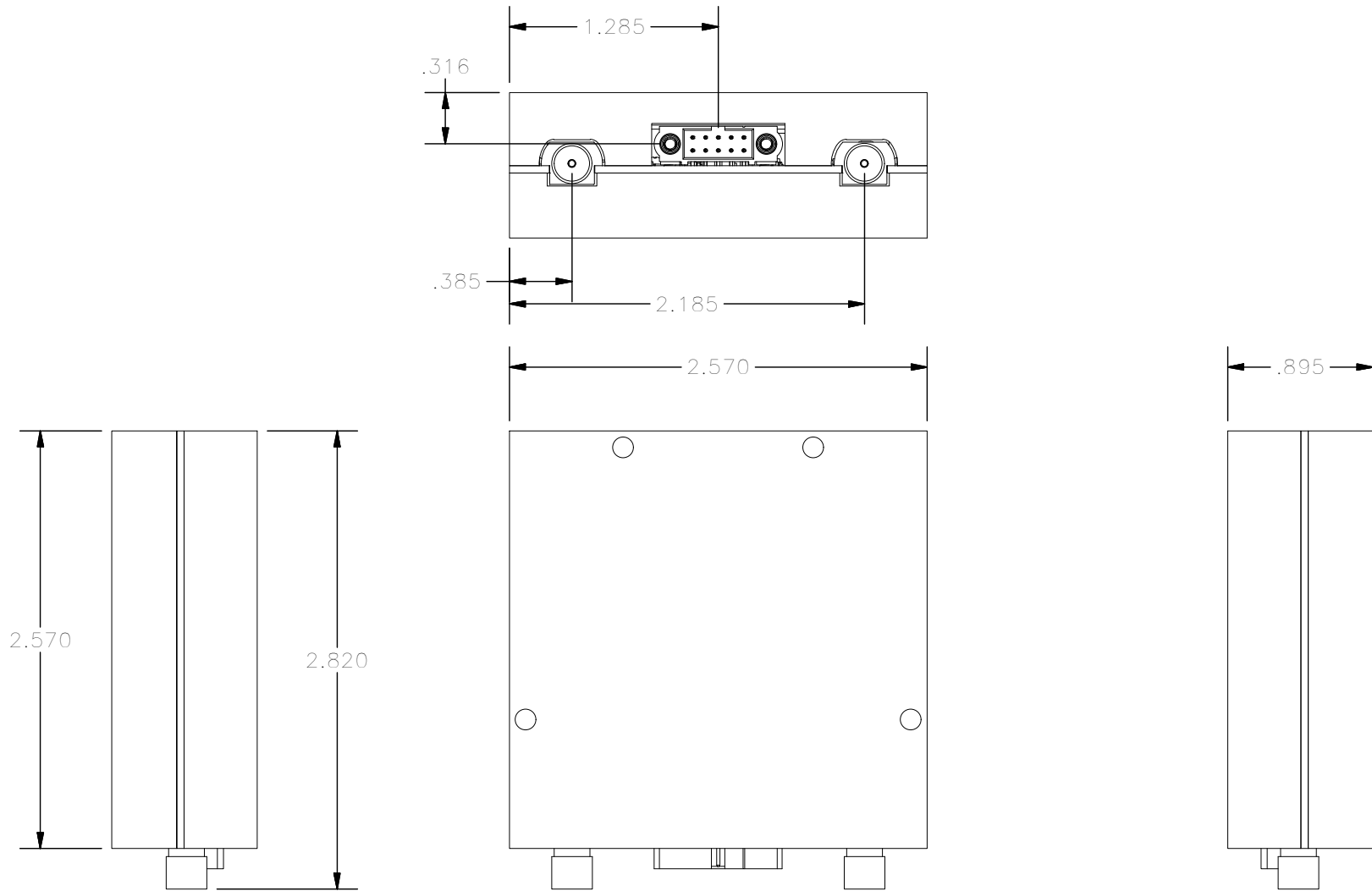
Ordering Guide – Configuration Information		
Model Number	Amplifier Option	Heat Sink Option
TTRMXXXX - XXX - XXX		

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

A MATERIAL: ALLOY 6061

B FINISH: MIL-DTL-5541 TYPE 2 CLASS 3

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



DRAWN	CFD	10/10/2017
DESIGNED	scopp	9/22/2017
CHECKED		
ENG. APPROVED		
MFG. APPROVED		



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

SIZE	DWG. NO.	REV
A	TTRM1019	
SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 2