

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

High Speed On/Off Control
Over-Temperature Protection

Temp. Monitor Output
Auto Tx/Rx Switching (RF Detect)

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

Tx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	30		2700	MHz
PSat Power Output		+39.0		dBm
Gain		36.0		dB
Gain Flatness		3.0		± dB
Input Return Loss	-12	-15		dB
Operating Voltage	+12		+30	VDC
Current Draw		1.4		A
Tx / Rx Switching Time		1.0	2.0	uS

Rx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
P1dB Power Output		+15.0		dBm
Gain	22.0	23.0		dB
Gain Flatness		2.0		± dB
Noise Figure		2.0	3.0	dB
Input Return Loss	-10	-12		dB
Current Draw		200.0	0.0	mA

MECHANICAL		
PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	3.25 x 2.42 x 0.54	in
RF Connectors (Input / Output)	SMA-F / SMA-F	--
DC / Control Connector	Rectangular Locking	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	4-40 Through Holes	--
Weight	4	oz.
Weight With Heatsink	8	oz.

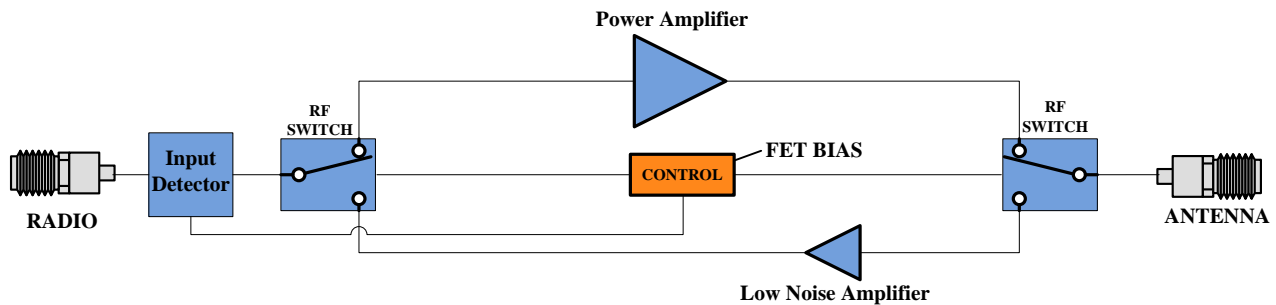
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Storage Temperature	-60	+150	°C
Humidity Range	0-95		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	8		dBm
PA Baseplate Shutoff Temperature	+85		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		8 PIN RECTANGULAR MALE		
TRIAD CABLE PART NUMBER:		CBL61		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
1	TEMP	Analog Temperature Sensor Output	Power	--
2,4,6	GND	Ground	Power	--
5,7	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
8	SGND	Signal Ground	Input	5V TTL

802-11G (20 MHz BW) DATA RATE VS. OUTPUT POWER			
OFDM MODULATION	DATA RATE	POUT (W) MIN.	EVM
64QAM	54 Mbps	1	≤ -27 dB
16QAM	36 Mbps	2	≤ -21 dB
QPSK	12 Mbps	4	≤ -15 dB
BPSK	9 Mbps	8	≤ -7 dB

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

High-Level Block Diagram

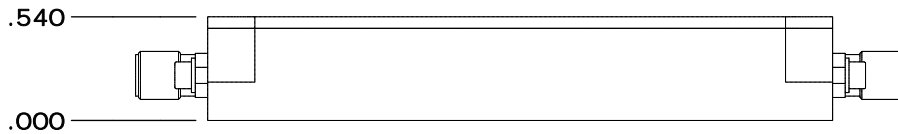
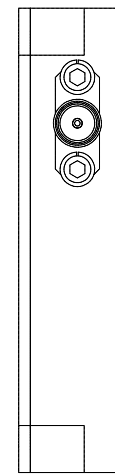
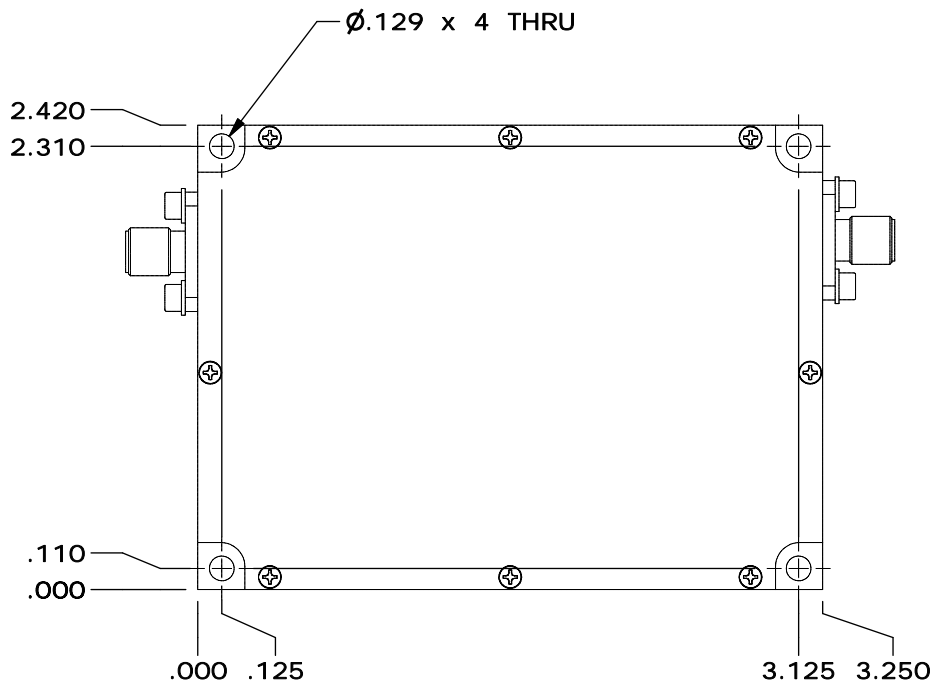
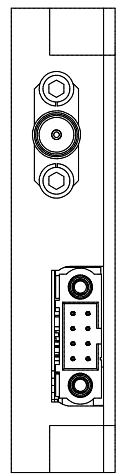


Ordering Guide – Configuration Information		
Model Number	Amplifier Option	Heat Sink Option
TTRMXXXX	- XXX	- XXX

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 B C D E

1
2
3
4



A B C D E

DRAWN	scopp	4/6/2018
DESIGNED	scopp	2/28/2018
CHECKED		
ENG APPROVED		
MFG APPROVED		



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Housing Outline 191

DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE		SIZE	DWG NO.	REV
DECIMALS	FRACTIONS	A	OL_191	O
.XX ±.01	± 1/32	SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 2
.XXX ±.005	± 2°			