

DESCRIPTION

This class A GaAs 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
 Reflected Power Measurement
 Temperature Output
 Manual or Automatic Tx/Rx Switching Available

Forward Power Measurement
 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	4600		5000	MHz
P1dB Power Output		+37.0		dBm
Gain	36.0	37.0		dB
Gain Flatness		1.0	1.5	± dB
Input Return Loss	-11	-12		dB
Operating Voltage	+9	+28	+36	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		0.5	1.3	± 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)	3.25 x 2 x 0.993	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	6	oz.
Weight With Heatsink	16	oz.

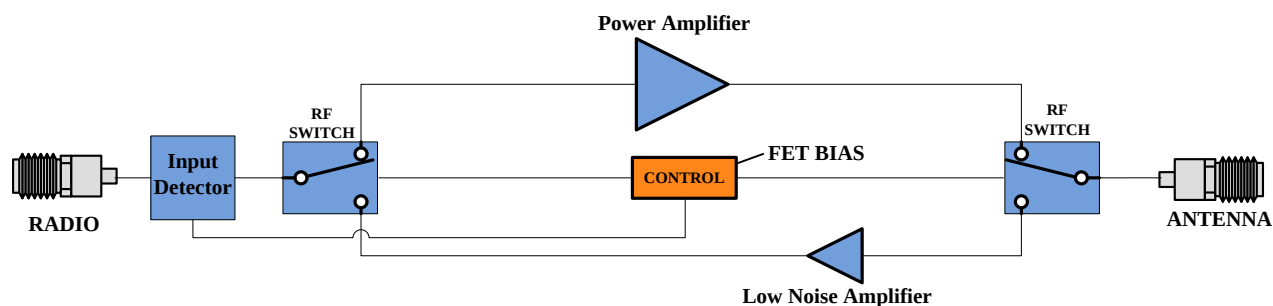
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Humidity Range	0-100		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	3		dBm
PA Baseplate Shutoff Temperature	+90		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		CIRCULAR PUSH/PULL MALE		
TRIAD CABLE PART NUMBER:		CBL29		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
1	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
2	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
3	TEMP	Temp Monitor: Temp in DegC = (Vout - 0.5V) * 100	Output	Analog
4	Tx/Rx	T/R Control - TTL Hi = Tx Mode, TTL Lo = Rx Mode	Input	5V TTL
5	GND	Ground	Power	--
6	GND	Ground	Power	--

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	3	≤ -21 dB
QPSK	12 Mbps	4	≤ -15 dB
BPSK	9 Mbps	5	≤ -7 dB

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

High-Level Block Diagram

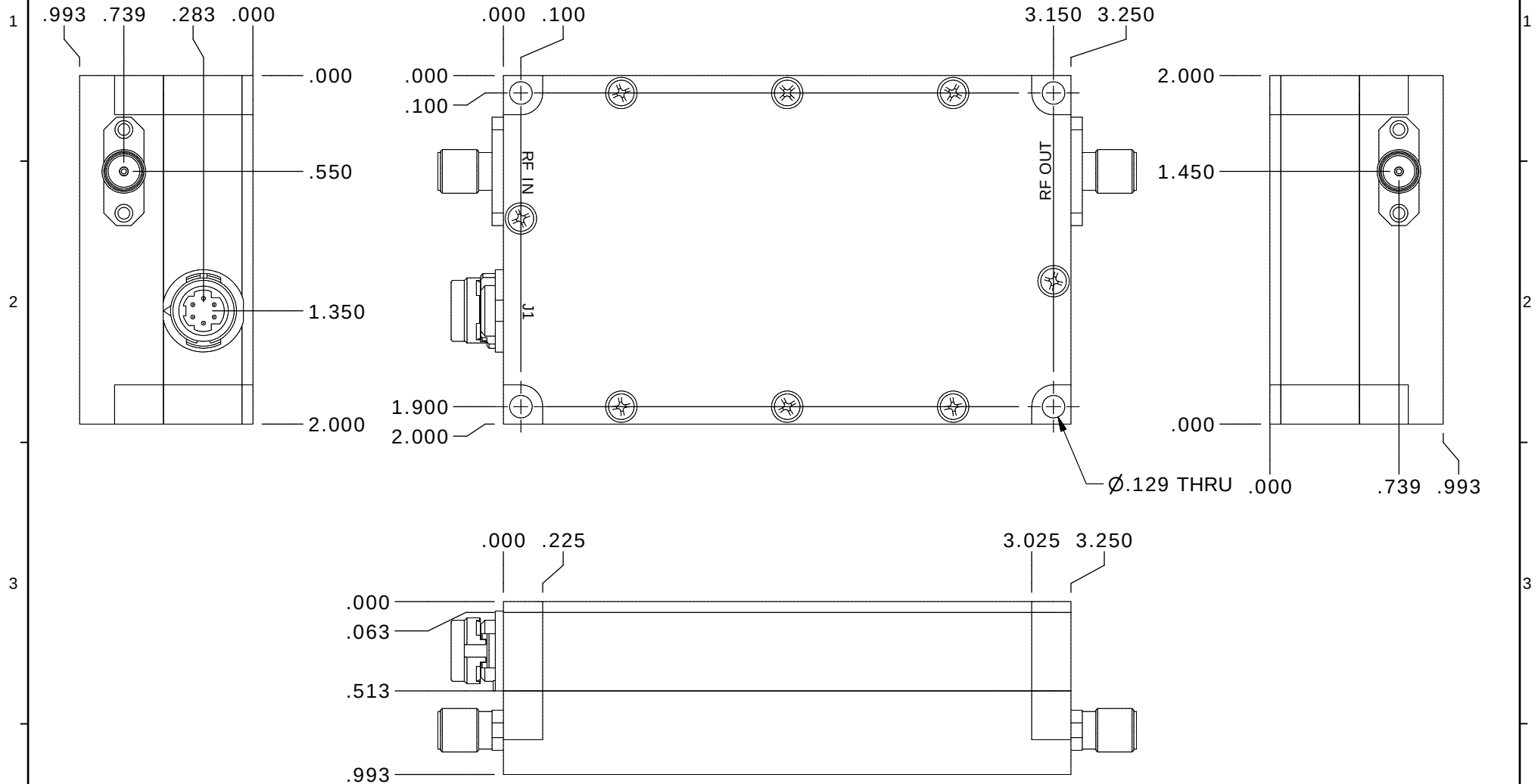


Ordering Guide – Configuration Information

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
0	INITIAL RELEASE	07/07/2014	DMC
1	E18330	6/6/18	SC



DRAWN	DCH	7/7/2014
DESIGNED	DCH	9/28/2012
CHECKED	SNB	8/14/2015
ENG APPROVED		
MFG APPROVED		

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



11 HARTS LANE SUITE I
EAST BRUNSWICK, NJ 08816
855-558-1001

HOUSING OUTLINE DRAWING 119

SIZE	DWG NO.	REV
A	OL_119	1
SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 3

A

B

C

D

E

HEATSINK

1.983

.993

.063

.000

.000

.575

2.675

3.250

.000

.160

2.540

2.700

 $\varnothing.129 \nabla .063$

DRAWN	DCH	7/7/2014	HOUSING OUTLINE DRAWING 119			
DESIGNED	DCH	9/28/2012				
CHECKED	SNB	8/14/2015	SIZE	DWG NO.		
ENG APPROVED			A	OL_119	REV	
MFG APPROVED			SCALE: NONE		CAGE CODE 67DZ3	SHEET 2 OF 3

A

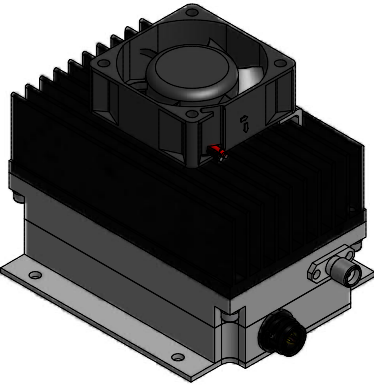
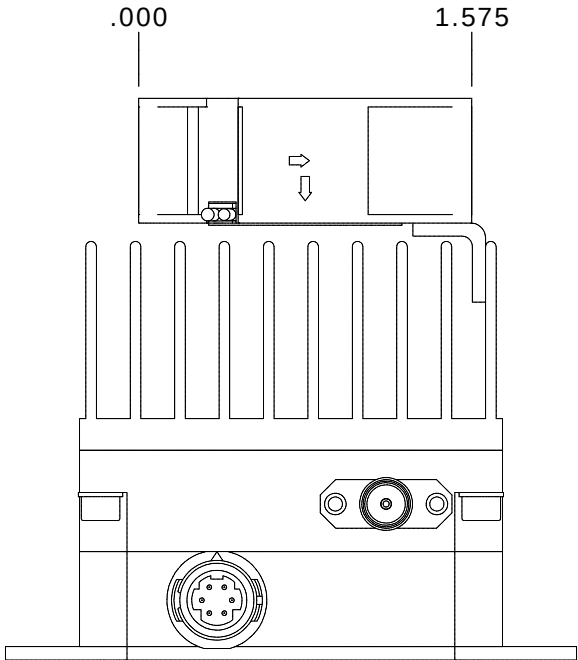
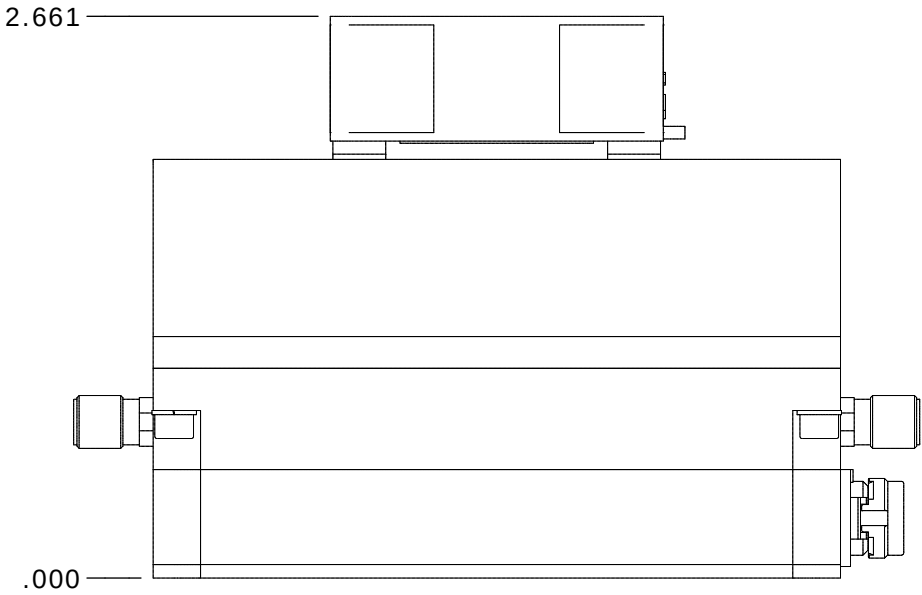
B

C

D

E

HEATSINK + FAN



DRAWN	DCH	7/7/2014	 11 HARTS LANE SUITE I EAST BRUNSWICK, NJ 08816 855-558-1001		
DESIGNED	DCH	9/28/2012			
CHECKED	SNB	8/14/2015			
ENG APPROVED					
MFG APPROVED			HOUSING OUTLINE DRAWING 119		
DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE TOLERANCES DECIMALS FRACTIONS ANGLES .XX ±.01 ± 1/32 ± 2° .XXX ±.005			SIZE	DWG NO.	REV
			A	OL_119	1
			SCALE: NONE	CAGE CODE 67DZ3	SHEET 3 OF 3