

**DESCRIPTION**

This class AB LDMOS 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
- Manual Gain Control
- Internal Bypass Relay

Specifications subject to change without notice. Typical performance at +13VDC at 25°C in a 50Ω system

Tx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	1200		1400	MHz
PSat Power Output	+38.0	+39.0		dBm
Gain		27.0		dB
Gain Flatness		0.3	0.5	± dB
Input Return Loss		-16		dB
Operating Voltage	+9	+13	+15	VDC
Current Draw		0.75	0.9	A
Tx / Rx Switching Time		1.0	2.0	uS

Rx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
P1dB Power Output		+5.0		dBm
Gain	-2.0	-4.0		dB
Gain Flatness		1.0		± dB
Noise Figure		2.0		dB
Input Return Loss		-14		dB
Current Draw		30.0	60.0	mA

MECHANICAL		
PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	5.31 x 2.4 x 1.1	in
RF Connectors (Input / Output)	SMP / SMA-F	--
DC / Control Connector	15 Pin Micro-D	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	M3 x 0.5	--
Weight	9	oz.
Weight With Heatsink	0	oz.

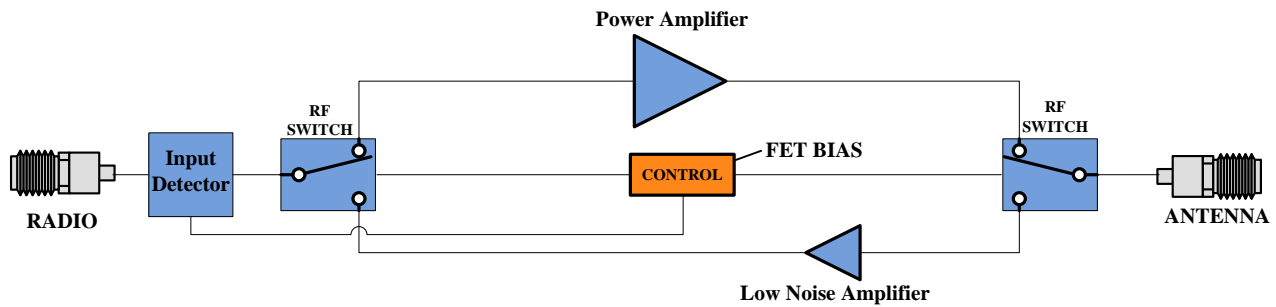
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Storage Temperature	-60	+100	°C
Humidity Range	0-100		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
PA Baseplate Shutoff Temperature	+85		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		15 PIN MICRO-D MALE		
TRIAD CABLE PART NUMBER:		CBL36		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
7,9	GND	Ground	Power	--
10	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
13	BYP CTRL	Bypass Control -Hi-Z: Bypass Mode, GND: Amplifier On	Input	3.3V TTL

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	4	≤ -21 dB
QPSK	12 Mbps	5	≤ -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
<b>TTRMXXXX</b>	<b>- XXX</b>	<b>- XXX</b>

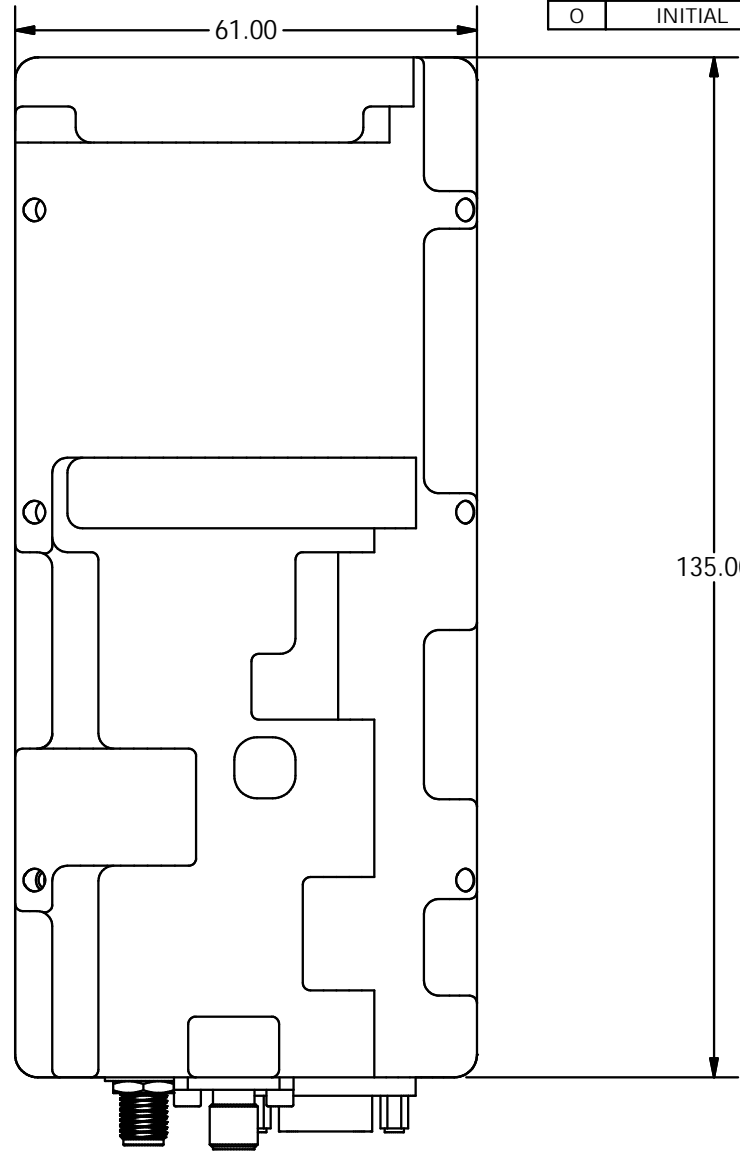
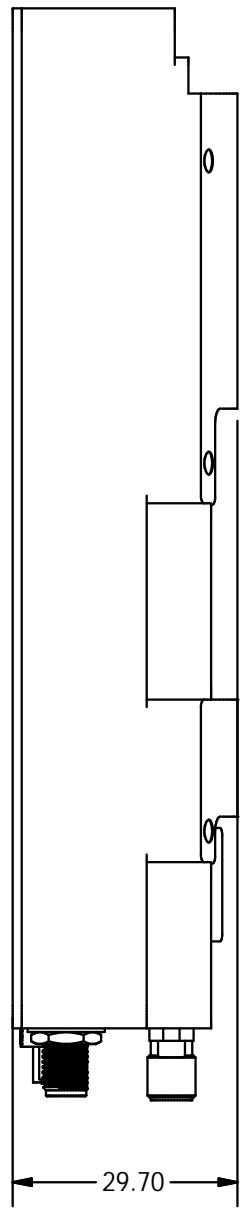
Amplifier Options		Heat Sink Options	
Suffix	Description	Suffix	Description
D01	Automatic Tx/Rx Switching	(none)	No Heat Sink Included
D02	Manual Tx/Rx Switching	HS	Standard Heat Sink
DXX	Custom Amplifier Configuration (issued by Triad upon customer request)	HSF	Heat Sink with Integrated Cooling Fan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

A MATERIAL: ALLOY 6061

B FINISH: IAW MIL- DTL- 5541 TYPE II CLASS 3

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	11/17/17	DH

1  
2  
3  
4



DIMENSIONS IN MILLIMETERS

DRAWN	DEAN	5/22/2017
DESIGNED	DEAN	7/19/2017
CHECKED		
ENG APPROVED		
MFG APPROVED		

**TRIAD** RF SYSTEMS

11 HARTS LANE SUITE 1  
EAST BRUNSWICK, NJ 08816  
855- 558- 1001

DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE		SIZE	DWG NO.	REV
DECIMALS	FRACTIONS	A	OL_164	
XXX ± .01	± 1/32	SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 3
ANGLES	± 2°			

A

B

C

D

E

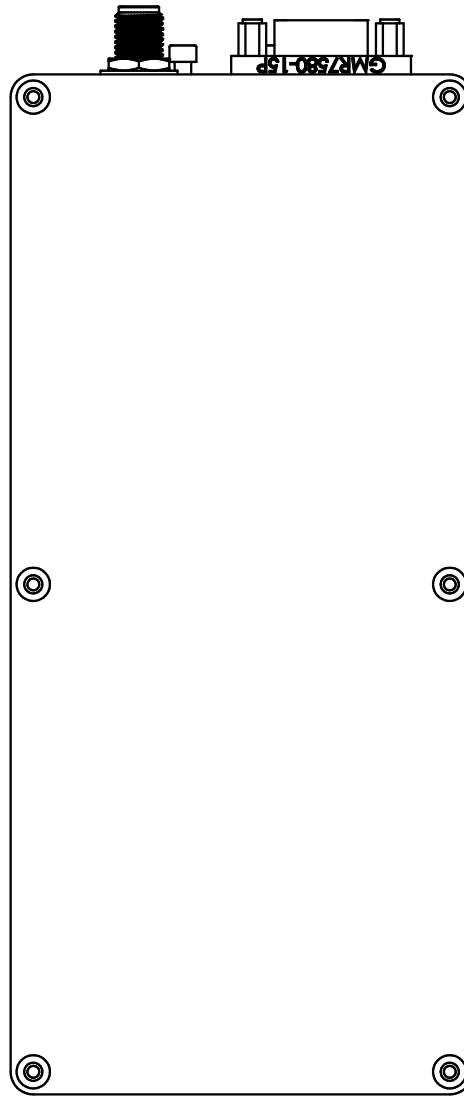
A

B

C

D

E



1

1

2

2

3

3

4

4

A

B

C

D

E

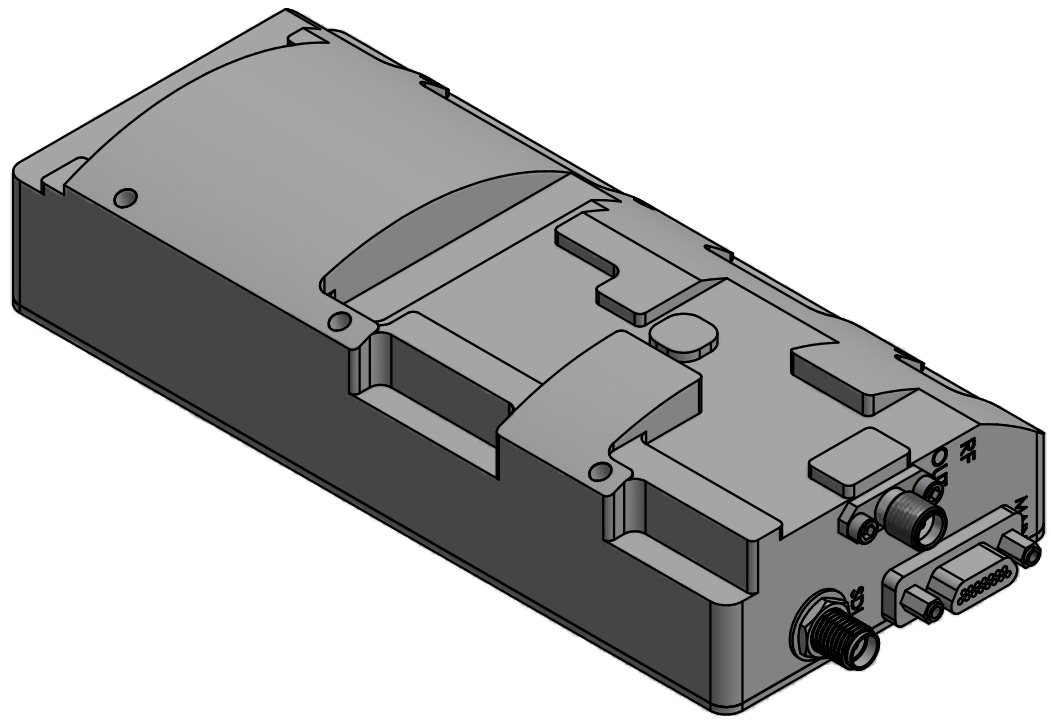
DRAWN	DEAN	5/22/2017
DESIGNED	DEAN	7/19/2017
CHECKED		
ENG APPROVED		
MFG APPROVED		



11 HARTS LANE SUITE 1  
 EAST BRUNSWICK, NJ 08816  
 855- 558- 1001

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

SIZE	DWG NO.	REV
A	OL_164	
SCALE: NONE	CAGE CODE 67DZ3	SHEET 2 OF 3



DRAWN	DEAN	5/22/2017
DESIGNED	DEAN	7/19/2017
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	OL_164	
SCALE: NONE	CAGE CODE 67DZ3	SHEET 3 OF 3