

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

High Speed Tx/Rx Switching Control
 Manual Tx/Rx Switching (TTL)

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	1400		1800	MHz
PSat Power Output		+50.0		dBm
Gain		25.0		dB
Gain Flatness		1.5		± dB
Input Return Loss		-16		dB
Operating Voltage	+28		+30	VDC
Tx / Rx Switching Time		1.0	2.0	uS

Rx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
P1dB Power Output		+5.0		dBm
Gain		11.0		dB
Gain Flatness		1.0		± dB
Noise Figure		3.0		dB
OIP3		+15.0		dBm
Input Return Loss		-9		dB
Current Draw		200.0		mA

MECHANICAL		
PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	5.38 x 4.39 x 1.31	in
RF Connectors (Input / Output)	SMA-F / SMA-F	--
DC / Control Connector	Circular Locking	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	#6 Through Holes	--
Weight	28	oz.
Weight With Heatsink	37	oz.

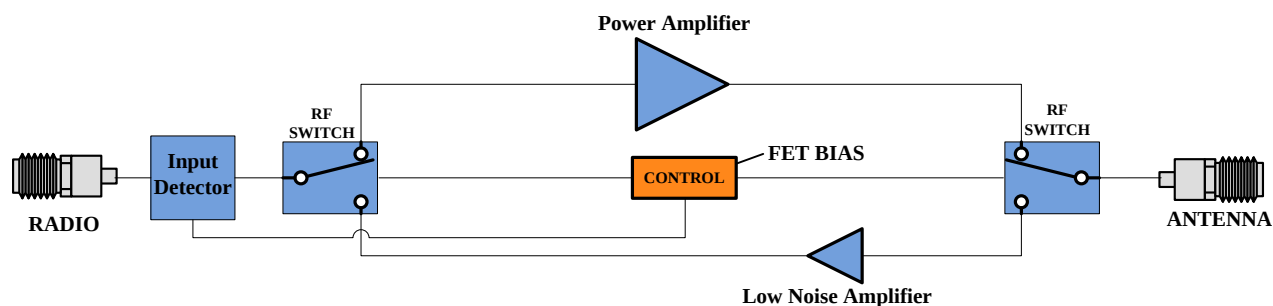
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Humidity Range	0-100		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	28		dBm
PA Baseplate Shutoff Temperature	+85		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		CIRCULAR BAYONET LOCKING MALE		
TRIAD CABLE PART NUMBER:		CBL32		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
A	ON/OFF+	PA ON/OFF CONTROL (RS-422)	Input	RS-422
B	ON/OFF-	PA ON/OFF CONTROL (RS-422)	Input	5V TTL
E	TX/RX+	TX/RX CONTROL (RS-422)	Input	RS-422
F	TX/RX-	TX/RX CONTROL (RS-422)	Input	RS-422
G	BIT+	PA BUILT IN TEST (RS-422)	Output	RS-422
H	BIT-	PA BUILT IN TEST (RS-422)	Output	RS-422
J	GND	GROUND	Power	--
K	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
L	GND	GROUND	Power	--
M	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--

802-11G (20 MHz BW) DATA RATE VS. OUTPUT POWER			
OFDM MODULATION	DATA RATE	POUT (W) MIN.	EVM
64QAM	54 Mbps	16	≤ -27 dB
16QAM	36 Mbps	16	≤ -21 dB
QPSK	12 Mbps	16	≤ -15 dB
BPSK	9 Mbps	63	≤ -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

1

2

3

4

1.310

5.380

4.390

1.315

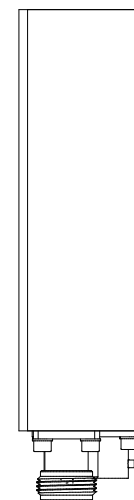
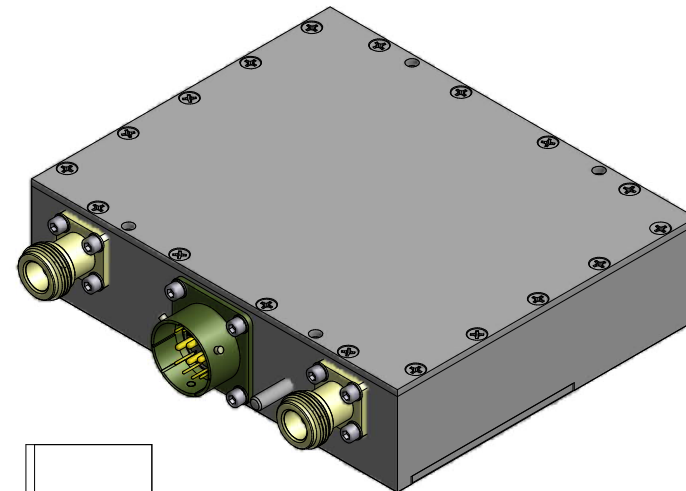
2.750

Ø.150 x 4 THRU

.820

.790

3.800



DRAWN	scopp	12/22/2015
DESIGNED	scopp	12/22/2015
CHECKED		
ENG APPROVED		
MFG APPROVED		

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

TRIAD
RF SYSTEMS

180 TICES LANE
BUILDING A, SUITE 107
EAST BRUNSWICK, NJ 08816
855-558-1001

HOUSING OUTLINE 148

SIZE	DWG NO.	REV
A	OL_148	
SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 2

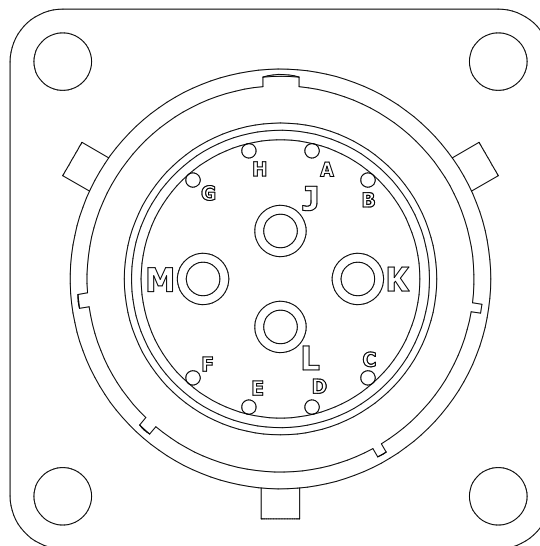
A

B

C

D

E



CONNECTOR ON AMPLIFIER: AMPHENOL CONNEX P/N PT02E-14-12P
(TRIAD P/N 400-039)

MATING CABLE REQUIRED: AMPHENOL P/N PT06E-14-12S(470)
(TRIAD P/N 400-083)

EQUIVALENT CONNECTOR FROM ALTERNATE MANUFACTURERS MAY BE USED -
CONTACT TRIAD FOR APPROVAL

TTRM1104 PINOUT		
PIN #	LABEL	FUNCTION
A	PA ON/OFF CONTROL (RS-422)	ON/OFF+
B	PA ON/OFF CONTROL (RS-422)	ON/OFF-
E	TX/RX CONTROL (RS-422)	TX/RX+
F	TX/RX CONTROL (RS-422)	TX/RX-
G	PA BUILT IN TEST (RS-422)	BIT+
H	PA BUILT IN TEST (RS-422)	BIT-
J,L	GND	GROUND
K,M	+VDC	SUPPLY VOLTAGE SPECIFIED ON DATASHEET

DRAWN	scopp	12/22/2015	 180 TICES LANE BUILDING A, SUITE 107 EAST BRUNSWICK, NJ 08816 855 - 558 - 1001
DESIGNED	DH	4/10/2014	
CHECKED			
ENG APPROVED			
MFG APPROVED			
DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE TOLERANCES DECIMALS FRACTIONS ANGLES .XX ±.01 ± 1/32 ± 2° .XXX ±.005			HOUSING OUTLINE 148
SIZE	DWG NO.		REV
A	OL_148		
SCALE: NONE	CAGE CODE	67DZ3	SHEET 2 OF 2