TTRM1081 |1350-1390MHz 25W
Bi-Directional Amplifier

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

Manual or Automatic Tx/Rx Switching Available

Auto Gain 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	1350		1390	MHz
PSat Power Output		+44.0		dBm
Gain	24.0	25.0		dB
Gain Flatness		1.0	1.5	dB
Input Return Loss	-12	-13		dB
Operating Voltage	+27	+28	+30	VDC
Current Draw		1.0	2.5	A
Tx / Rx Switching Time		1.0	2.0	uS

Rx Specifications				
Parameter	**Min**	**Typ**	**Max**	**Unit**
P1dB Power Output		+5.0		dBm
Gain	9.0	10.0		dB
Gain Flatness		0.5	1.3	dB
Noise Figure		2.0	3.0	
OIP3		+15.0		dBm
Input Return Loss	-8	-12		dB
Current Draw		40.0	60.0	mA

Triad RF Systems Inc. | 180 Tices Lane, Building A, Suite 107, East Brunswick, NJ 08816
Tel: 1-(855) 558-1001 x1 | sales@triadrf.com

MECHANICAL		
PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	3.33 x 2.69 x 0.65	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

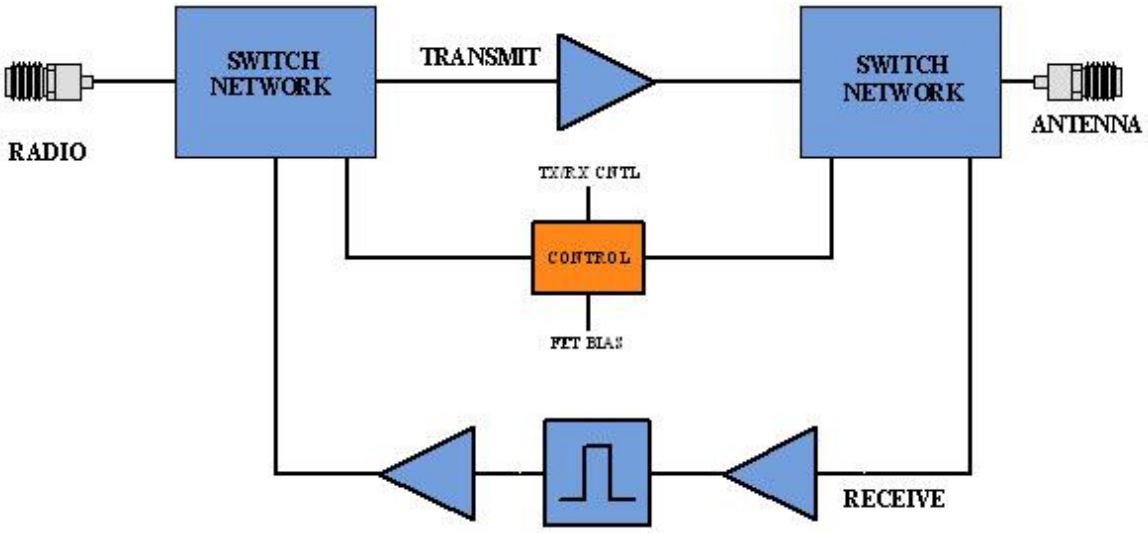
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temp. (Housing Temp.)	-40	+85	°C
Storage Temp Range	-60	+100	°C
Humidity Range	0-100		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	+22		dBm
Load VSWR @ P1dB	Open / Short Output Protection		--
PA Baseplate Shutoff Temperature	+90		°C

DC / CONTROL PINS		
PIN LABEL	NAME	DESCRIPTION
1	Tx/Rx	Tx / Rx Switching (+5V = Tx Amp Active / 0V = Rx Amp Active)
2	GND	Ground
3	+VDC	Supply Voltage - Range Specified in Datasheet

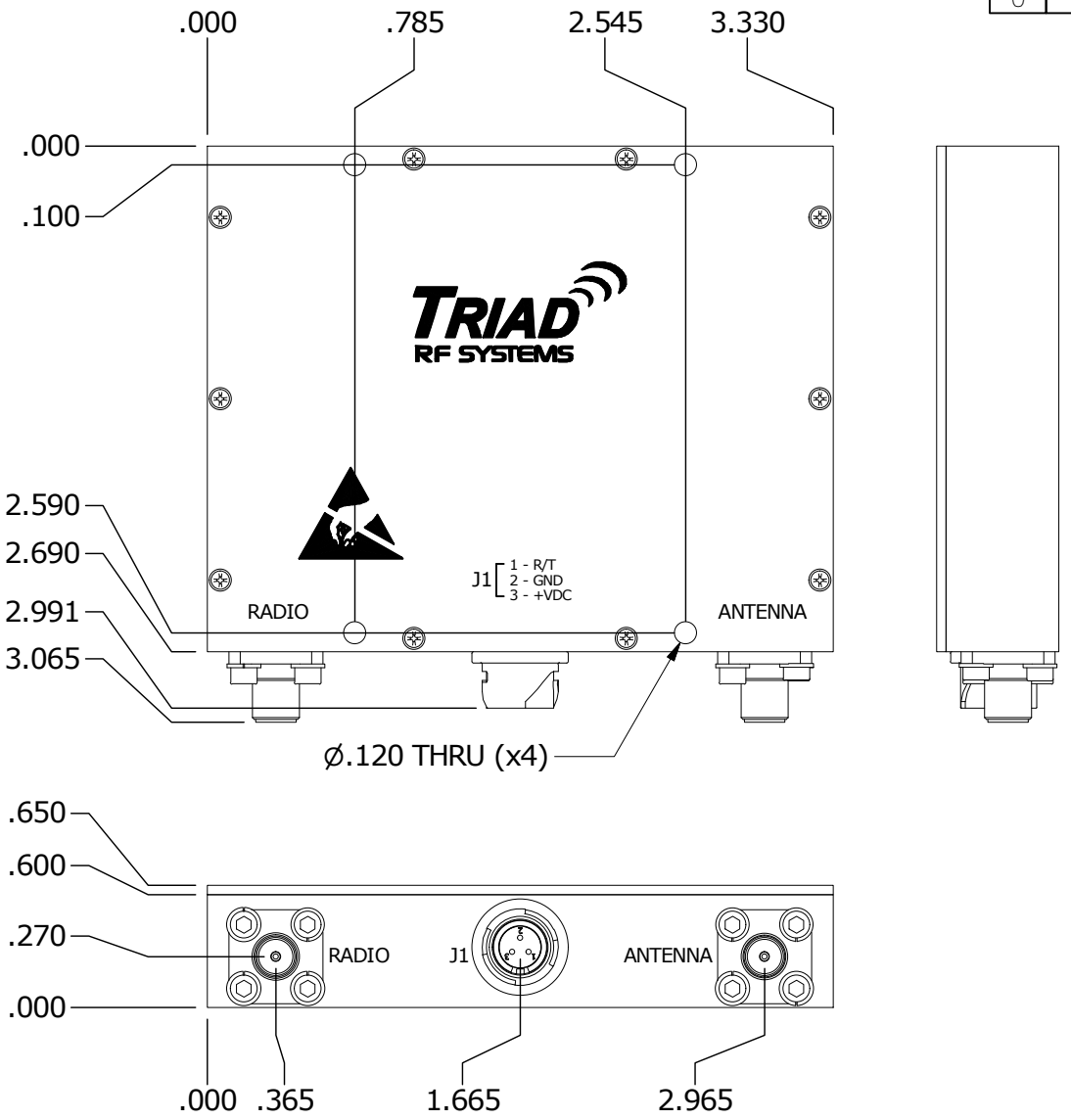
Bi-Directional Amplifiers

DATA RATE VS. OUTPUT POWER	
OFDM MODULATION	POUT (W)
64QAM OFDM	6.31
16QAM OFDM	11.22
QPSK	12.59
BPSK	19.95

See our application note that describes how this data was taken and how you can apply it to your system



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	08/03/2014	DMC



DRAWN	AHA	6/17/2014
DESIGNED	DCH	7/12/2013
CHECKED	BG	6/17/2014
ENG APPROVED		
MFG APPROVED		

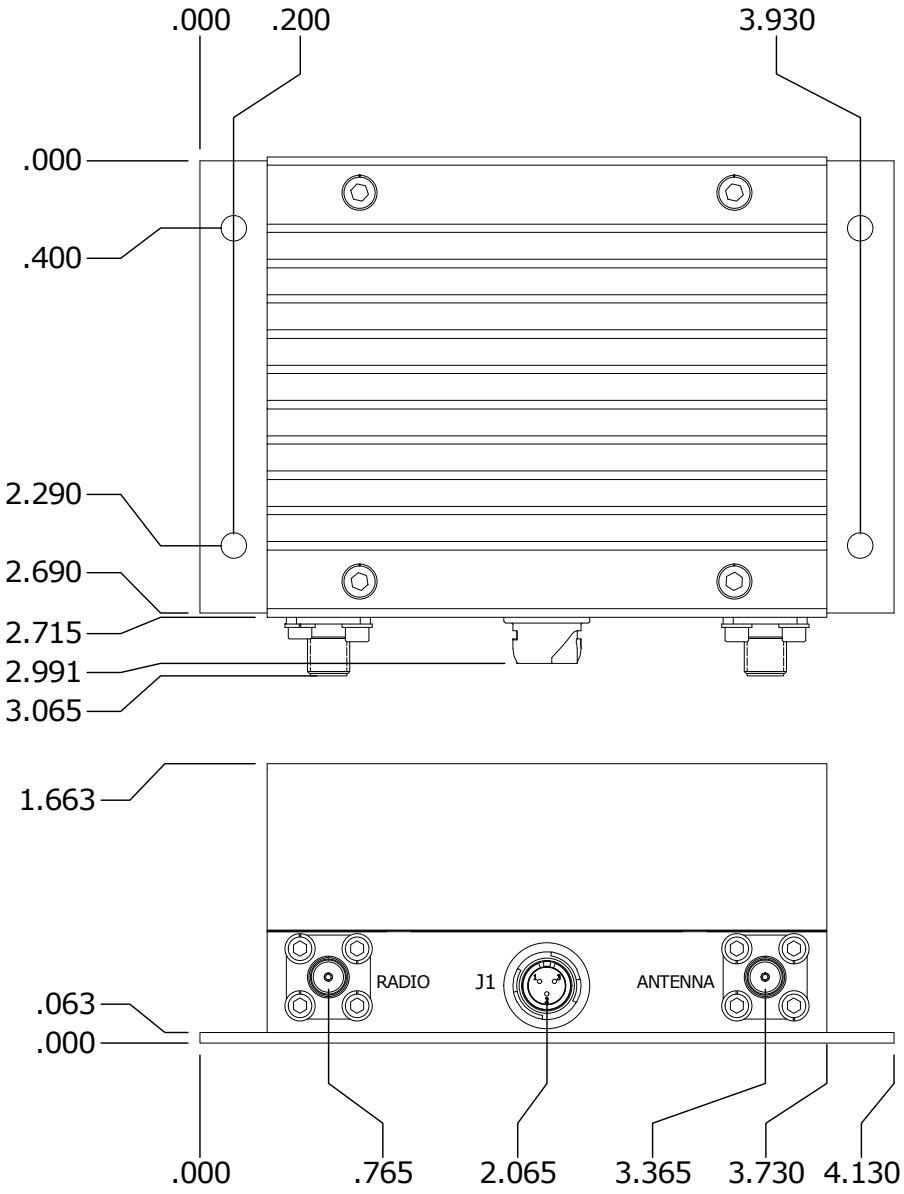
DIMENSIONS ARE IN INCHES
UNLESS SPECIFIED OTHERWISE
TOLERANCES
DECIMALS .XX ±.01 .XXX ±.005
FRACTIONS ±1/32
ANGLES ±2°

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

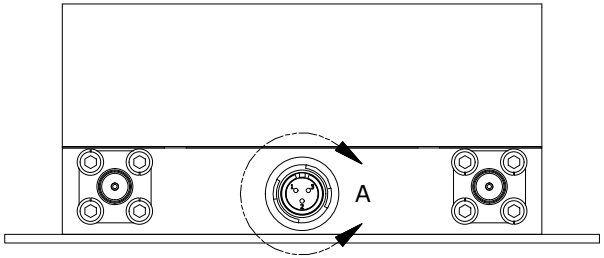
Housing Outline Drawing 118

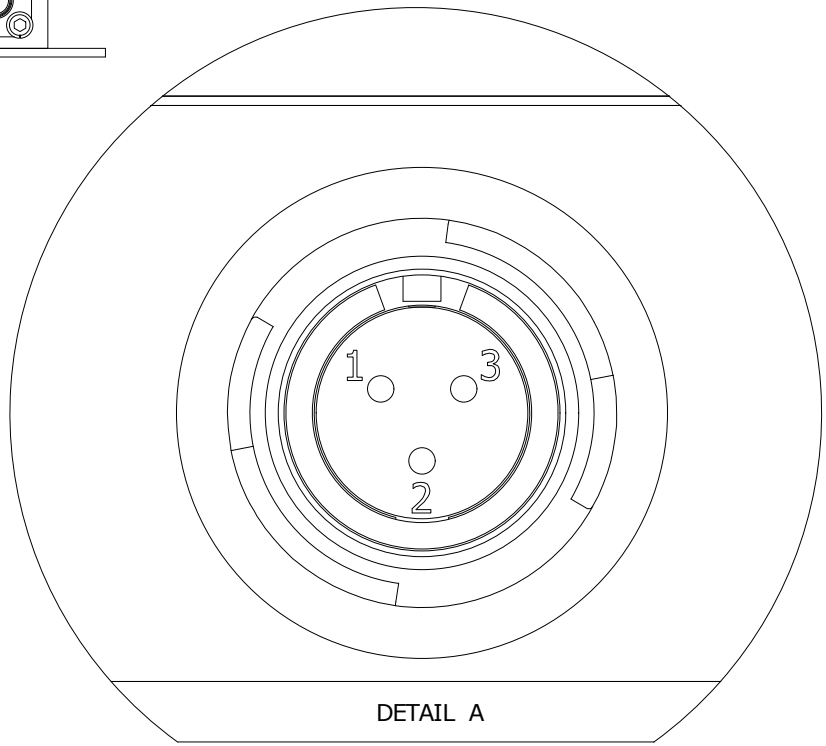
SIZE	DWG NO.	REV
A		0

SCALE: NONE | CAGE CODE 67DZ3 | SHEET 1 OF 4



DRAWN	AHA	6/17/2014	Housing Outline Drawing 118
DESIGNED	DCH	7/12/2013	
CHECKED	BG	6/17/2014	SIZE A / DWG NO. / REV 0
ENG APPROVED			
MFG APPROVED			SCALE: NONE / CAGE CODE 67DZ3 / SHEET 2 OF 4





DETAIL A

PINOUT TABLE		
PIN	LABE	FUNCTION
1	R/T	RX/TX
2	GND	GROUND WIRE
3	+DC	SUPPLY VOLTAGE

NOTES:

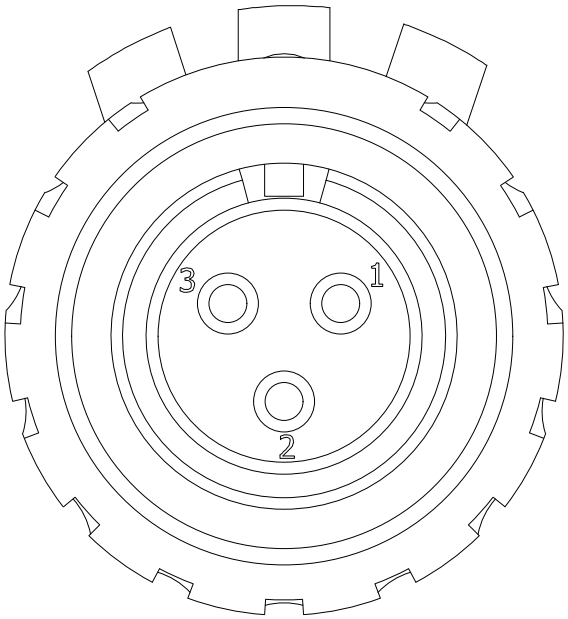
1. VIEW FACING CONNECTOR INTERFACE (AMP SIDE)
2. P/N OF CONNECTOR ON AMPLIFIER: HIROSE LF07WBP-3P

DRAWN	AHA	6/17/2014
DESIGNED	DCH	7/12/2013
CHECKED	BG	6/17/2014
ENG APPROVED		
MFG APPROVED		

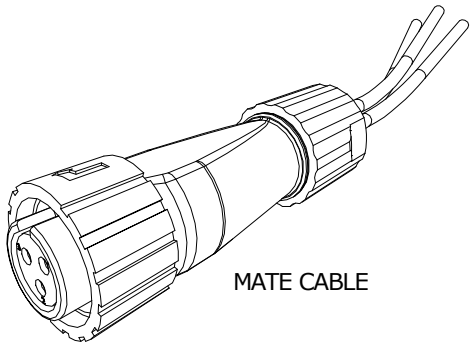
Housing Outline Drawing 118

SIZE A | DWG NO. | REV 0

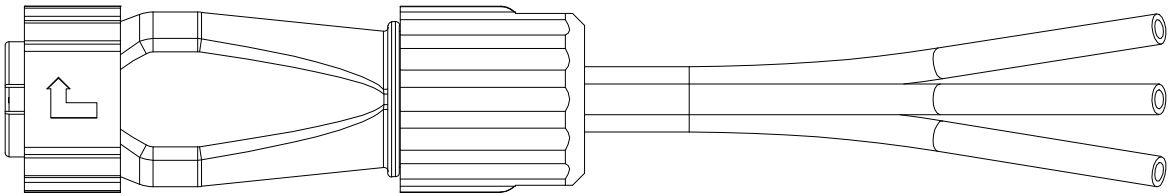
SCALE: NONE | CAGE CODE 67DZ3 | SHEET 3 OF 4

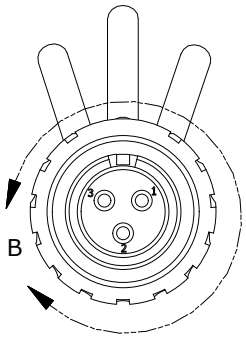


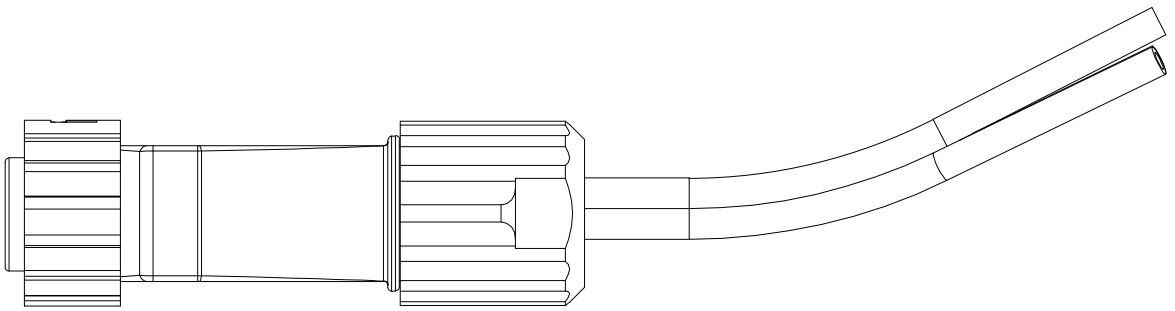
DETAIL B



MATE CABLE







C138302

NOTES:

1. P/N OF MATING CONNECTOR REQUIRED: Hirose LF07WBP-3S OR EQUIVALENT
2. TRIAD CABLE P/N: C13080302
3. WIRE DIAMETER: 24 AWG

DRAWN	AHA	6/17/2014	Housing Outline Drawing 118
DESIGNED	---	8/30/2013	
CHECKED	BG	6/17/2014	SIZE A / DWG NO. / REV 0
ENG APPROVED			SCALE: NONE / CAGE CODE 67DZ3 / SHEET 4 OF 4
MFG APPROVED			