

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
- Over-Temperature Protection
- Temp. Monitor Output
- Amplifier Status Output

Specifications subject to change without notice. Typical performance at +28VDC at 25°C in a 50Ω system

TX SPECIFICATIONS(PER CHANNEL)				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	2200		2500	MHz
PSat Power Output		+44.0		dBm
Gain		25.0		dB
Gain Flatness		1.0		± dB
Input Return Loss	-15			dB
Operating Voltage	+12	+28	+30	VDC
Tx / Rx Switching Time		1.0	2.0	uS
RX SPECIFICATIONS(PER CHANNEL)				
PARAMETER	MIN	TYP.	MAX	UNIT
P1dB Power Output		+5.0		dBm
Gain		15.0		dB
Gain Flatness			1.0	± dB
Noise Figure		2.5		dB
OIP3		+15.0		dBm
Input Return Loss	-10			dB
Current Draw		100.0		mA

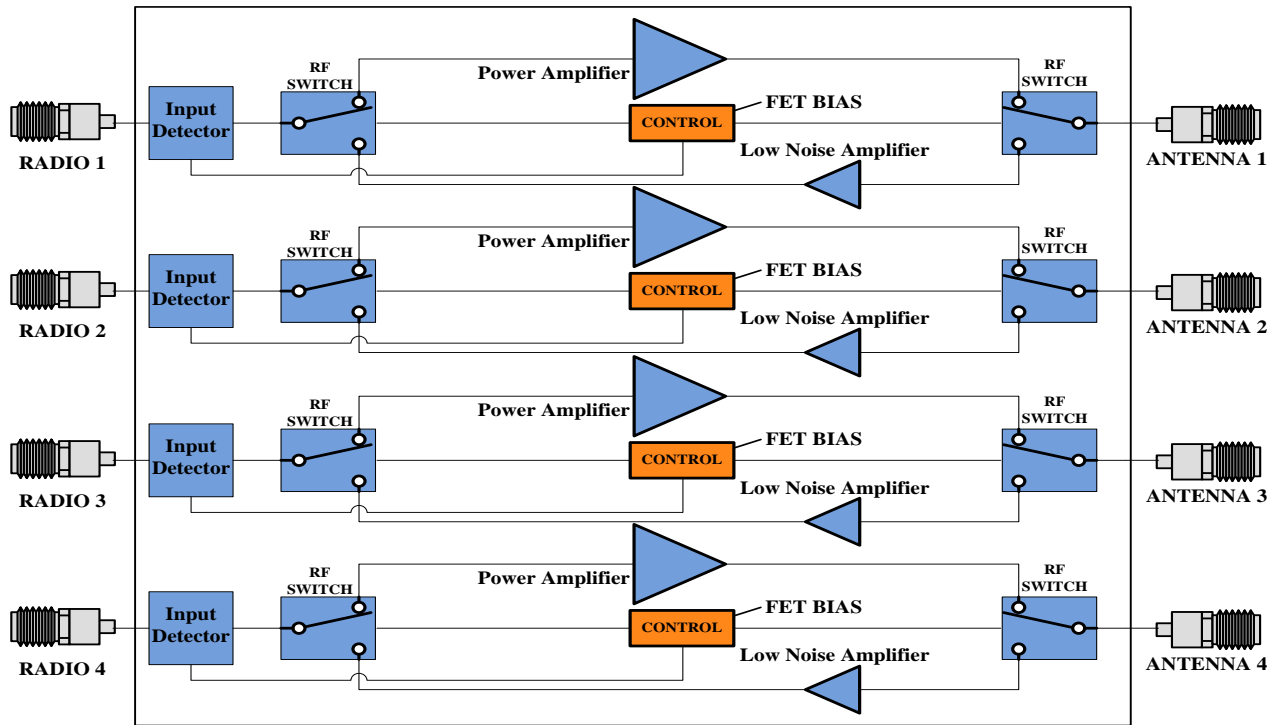
MECHANICAL			
PARAMETER	VALUE		UNIT
Dimensions (L x W x H)	8.7 x 3.2 x 2		in
RF Connectors (Input / Output)	TNC-F / TNC-F		--
DC / Control Connector	Circular Locking		--
Cooling	Baseplate Conduction - Optional Heatsink Available		--
Mounting	4-40 Thru Holes		--
Weight	48		oz.
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-20	+85	°C
Humidity Range	0-95		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	33		dBm
PA Baseplate Shutoff Temperature	+85		°C

INPUT/OUTPUT PINS		
AMPLIFIER CONNECTOR TYPE:		10 PIN CIRCULAR LOCKING
TRIAD CABLE PART NUMBER:		CBL92
PIN LABEL	NAME	DESCRIPTION
1	Status	Operational State - TTL High = Amp Active, TTL Low = Amp Fault
2	TEMP	Temp Monitor: Temp in DegC = (Vout - 0.5V) * 100
3	Tx/Rx	TTL High = Transmit Mode, TTL Low = Receive Mode
5,7,9	+VDC	Supply Voltage - Range Specified in Datasheet
6,8,10	GND	Ground

802-11G (20 MHz BW) DATA RATE VS. OUTPUT POWER(PER CHANNEL)			
OFDM MODULATION	DATA RATE	POUT (W) MIN.	EVM
64QAM	54 Mbps	4	≤ -27 dB
16QAM	36 Mbps	6	≤ -21 dB
QPSK	12 Mbps	10	≤ -15 dB
BPSK	9 Mbps	20	≤ -7 dB

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

High-Level Block Diagram

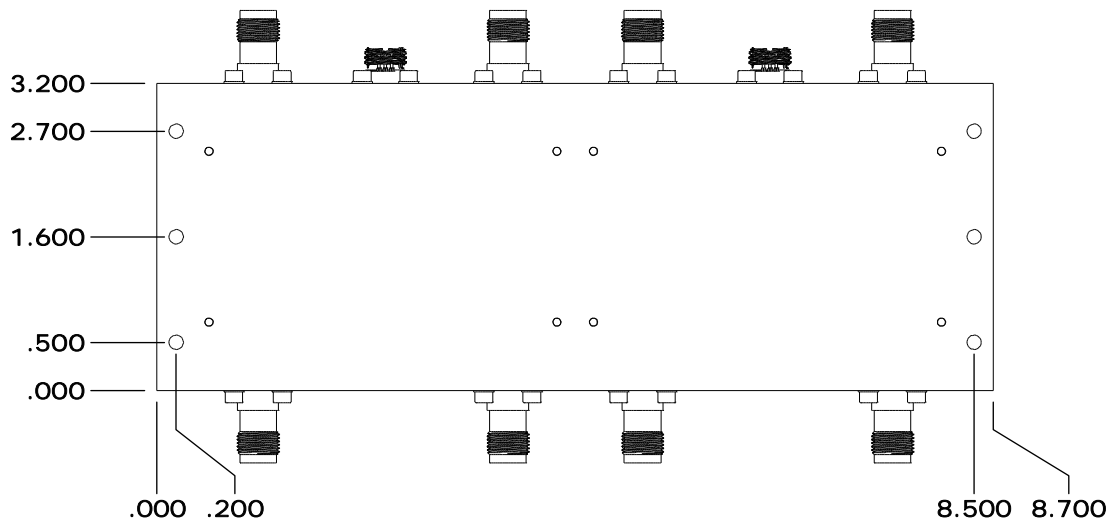
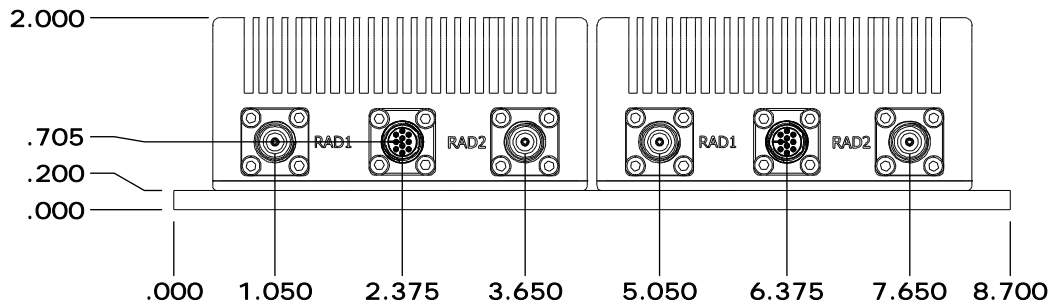


Ordering Guide – Configuration Information

Amplifier Options		Heat Sink Options	
Suffix	Description	Suffix	Description
D01	Automatic Tx/Rx Switching	(none)	Integrated Heat Sink
D02	Manual Tx/Rx Switching	F	Fan with Integrated Heat Sink
DXX	Custom Amplifier Configuration (issued by Triad upon customer request)		

OL_251

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	3/12/20	AK



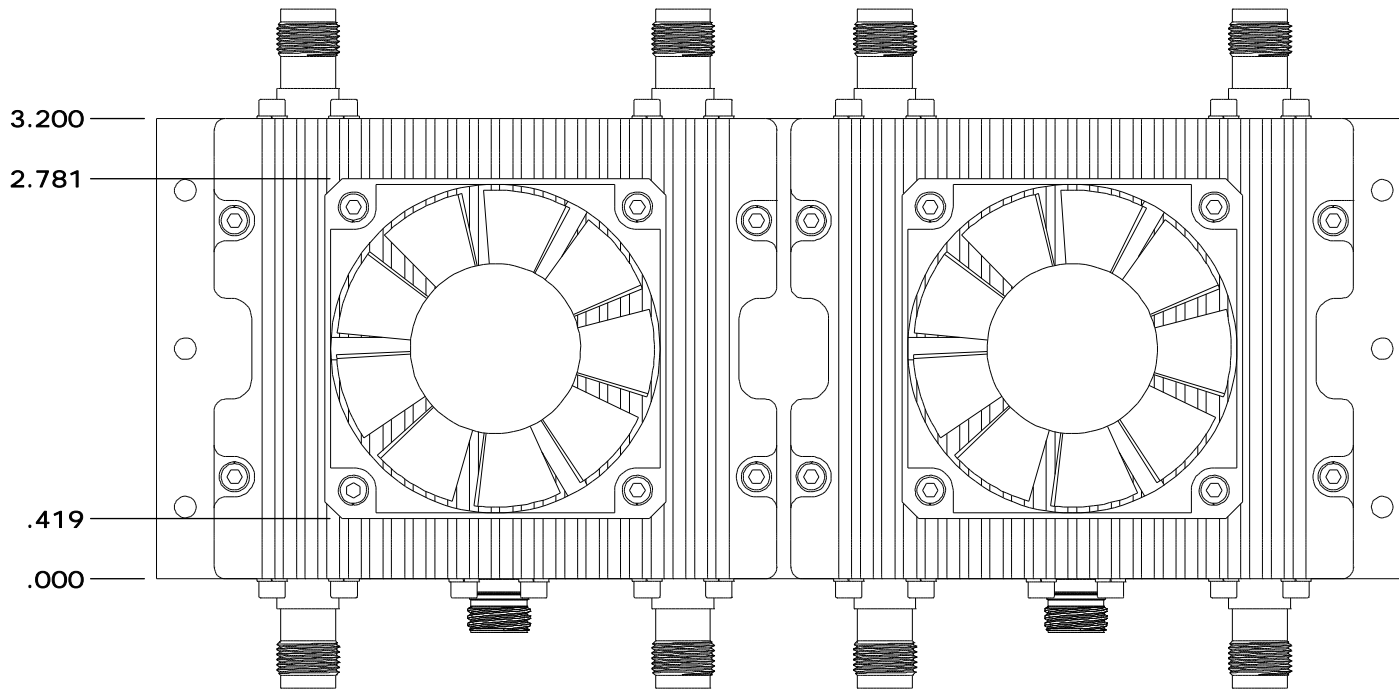
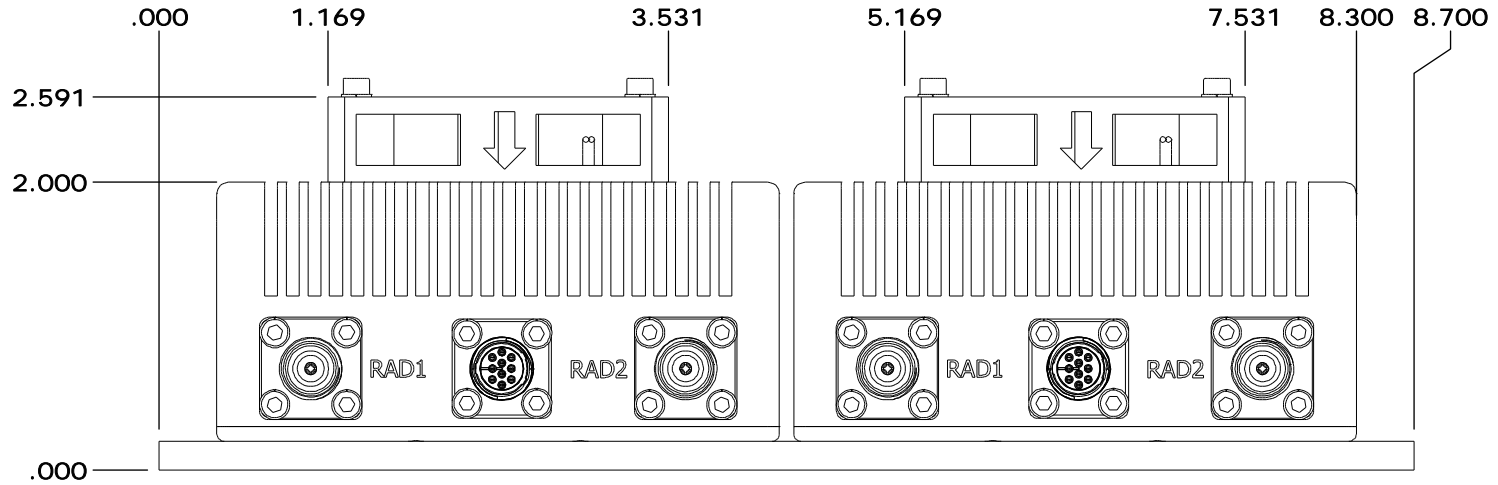
DRAWN	AK	3/12/2020
DESIGNED	Ankur	3/13/2020
CHECKED	DMC	3/13/2020
ENG APPROVED	DMC	3/13/2020
MFG APPROVED	DMC	3/13/2020

TRIAD RF SYSTEMS
 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

OL_251		REV	0
SIZE	DWG NO.	OL_251	
A	SCALE: NONE		CAGE CODE 67DZ3
SHEET 1 OF 2			

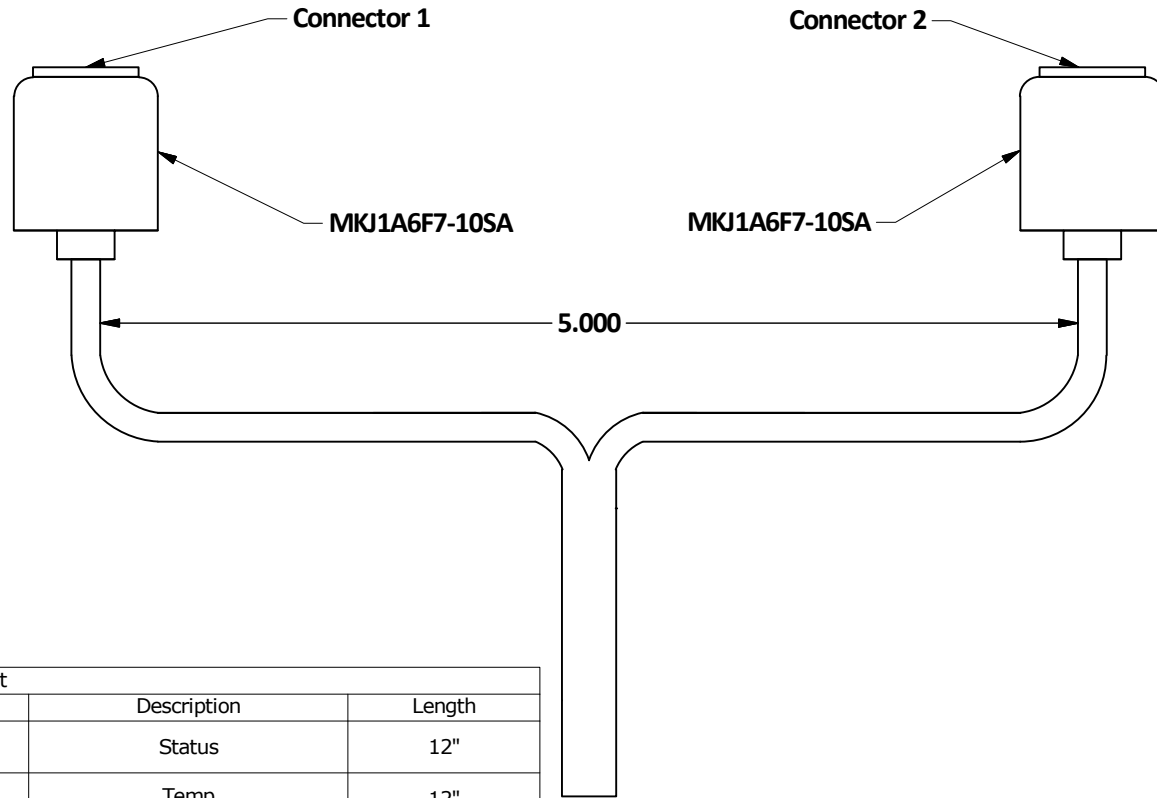
FAN - Option



DRAWN	AK	3/12/2020	OL_251	
DESIGNED	Ankur	3/13/2020	OL_251	
CHECKED	DMC	3/13/2020	SIZE A	REV 0
ENG APPROVED	DMC	3/13/2020	OL_251	
MFG APPROVED	DMC	3/13/2020	SCALE: NONE	CAGE CODE 67DZ3 SHEET 2 OF 2

CBL92

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	3/12/20	AK
1	E20625	5/1/20	AK
2	ECN21771	3/9/21	AK



Pinout

Pin	Label	Color/Gauge	Description	Length
1	Status	Green/24AWG	Status	12"
2	Temp	Orange/24AWG	Temp	12"
3	TX/RX	Blue/24AWG	TTL High=Transmit Mode TTL Low=Receive Mode	12"
5,7,9	+VDC	Red/24AWG	Supply Voltage	12"
6,8,10	GND	Black/24AWG	Supply Voltage Return	12"

DRAWN	AK	3/12/2020
DESIGNED	AK	3/12/2020
CHECKED	SC	3/9/2021
ENG. APPROVED	SC	3/9/2021
MFG. APPROVED	SC	3/9/2021

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