

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 On/Off Control
Manual Tx/Rx Switching (TTL)

Over-Temperature Protection

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 | 2200 | | 2500 | MHz |
| PSat Power Output | | +48.0 | | dBm |
| Gain | | 25.0 | | dB |
| Gain Flatness | | 1.0 | | ± dB |
| Input Return Loss | | -16 | | dB |
| Operating Voltage | +27 | +28 | +30 | VDC |
| Current Draw | | 7.0 | | A |
| Tx / Rx Switching Time | | 1.0 | 2.0 | uS |

| Rx SPECIFICATIONS | | | | |
|-------------------|-----|------|-----|------|
| PARAMETER | MIN | TYP. | MAX | UNIT |
| P1dB Power Output | | +7.0 | | dBm |
| Gain | | 12.0 | | dB |
| Gain Flatness | | 1.0 | | ± dB |
| Noise Figure | | 2.3 | 3.0 | dB |
| Input Return Loss | -12 | | | dB |
| Current Draw | | 1.4 | | A |

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

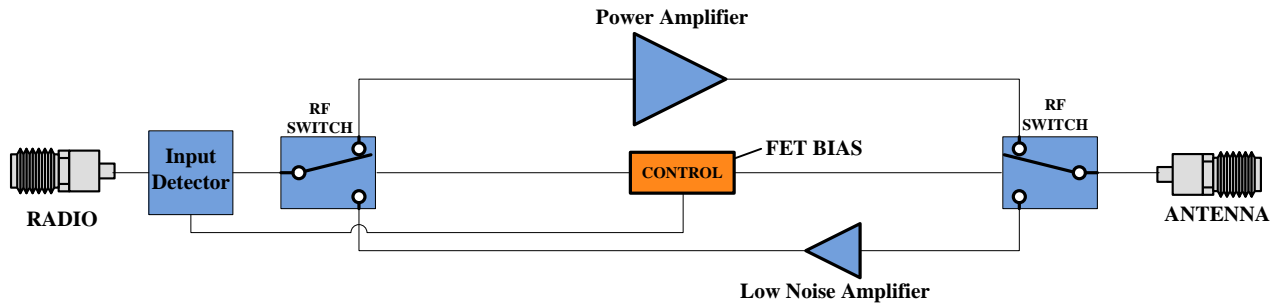
| ENVIRONMENTAL / PROTECTIONS | | | |
|---------------------------------------|-----------------------------|-----|------|
| PARAMETER | MIN | MAX | UNIT |
| Operating Temperature (Housing Temp.) | -40 | +85 | °C |
| Humidity Range | 0-100 | | % |
| Altitude | 0-30,000 | | ft. |
| Shock / Vibration | MIL-STD-810 and equivalents | | -- |
| Max RF Input | 15 | | dBm |
| PA Baseplate Shutoff Temperature | +85 | | °C |

| INPUT/OUTPUT PINS | | | | |
|----------------------------------|--------|---|--------|----------|
| AMPLIFIER CONNECTOR TYPE: | | CIRCULAR BAYONET LOCKING MALE | | |
| TRIAD CABLE PART NUMBER: | | CBL54 | | |
| PIN LABEL | NAME | DESCRIPTION | TYPE | LEVEL |
| A | SGND | Signal Ground | -- | -- |
| E | STATUS | TTL High = OK, TTL Low = Fault | Output | 3.3V TTL |
| F | Tx/Rx | TTL High = TX Mode, TTL Low = RX Mode | Input | 3.3V TTL |
| G | FWD | TX Forward Power | Output | Analog |
| J,L | GND | +VDC Supply Return | Power | -- |
| K,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 | 10 | ≤ -27 dB |
| 16QAM | 36 Mbps | 12 | ≤ -21 dB |
| QPSK | 12 Mbps | 20 | ≤ -15 dB |
| BPSK | 9 Mbps | 50 | ≤ -7 dB |

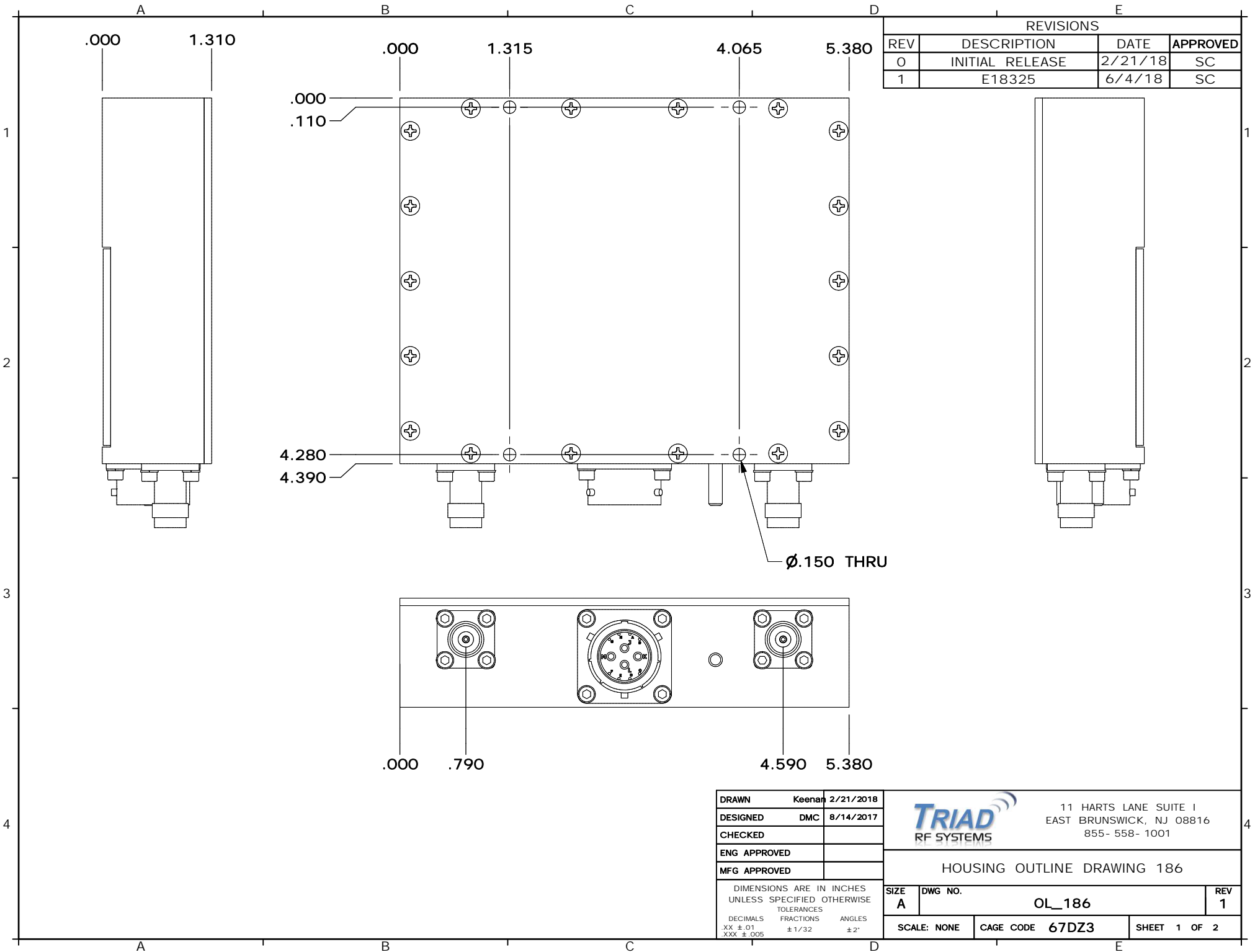
See our [application note](#) that describes how this table was calculated and provides notes on in-system performance

High-Level Block Diagram

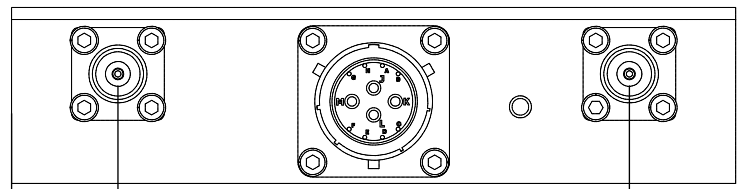
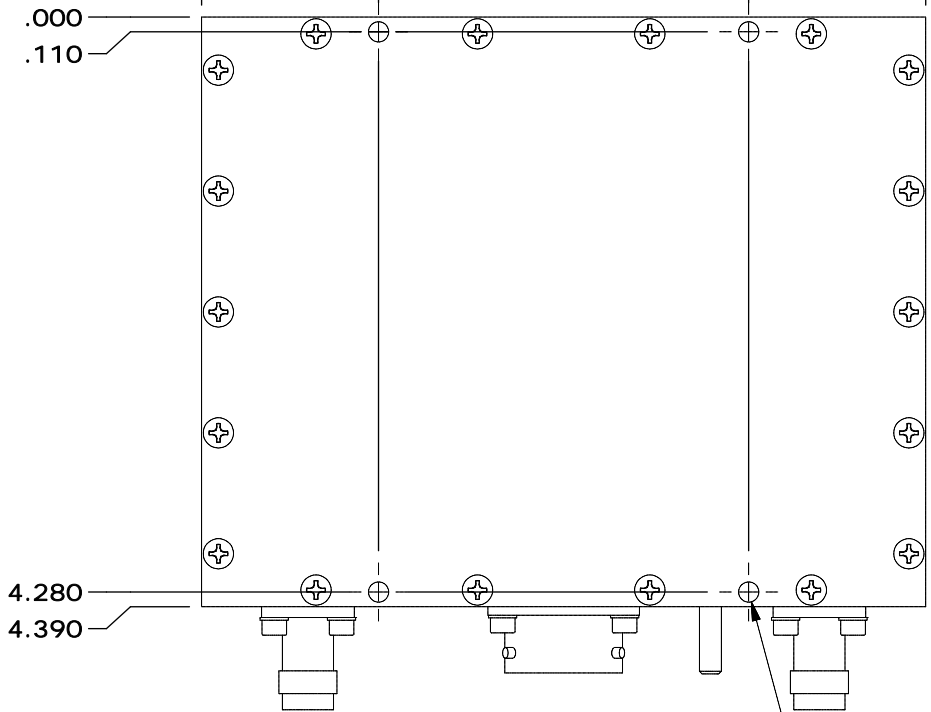


| Ordering Guide – Configuration Information | | |
|--|------------------|------------------|
| Model Number | Amplifier Option | Heat Sink Option |
| TTRMXXXX | - XXX | - XXX |

| 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 | 2/21/18 | SC |
| 1 | E18325 | 6/4/18 | SC |



| | | |
|--------------|--------|-----------|
| DRAWN | Keenan | 2/21/2018 |
| DESIGNED | DMC | 8/14/2017 |
| CHECKED | | |
| ENG APPROVED | | |
| MFG APPROVED | | |

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

HOUSING OUTLINE DRAWING 186

| | | | | |
|--|-----------|--------|--------------|-----------------|
| DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE TOLERANCES | | SIZE | DWG NO. | REV |
| DECIMALS | FRACTIONS | ANGLES | A | 1 |
| XX ±.01 | ± 1/32 | ± 2° | OL_186 | |
| .XXX ±.005 | | | SCALE: NONE | CAGE CODE 67DZ3 |
| | | | SHEET 1 OF 2 | |

A

B

C

D

E

2.820

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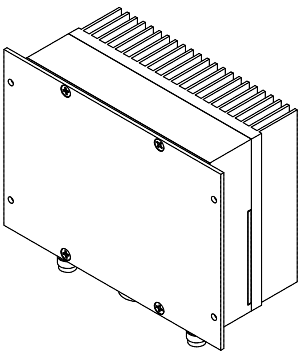
.745

3.745

4.490

6.180 6.380

Ø.150 THRU



| | | |
|--------------|--------|-----------|
| DRAWN | Keenan | 2/21/2018 |
| DESIGNED | DMC | 8/14/2017 |
| CHECKED | | |
| ENG APPROVED | | |
| MFG APPROVED | | |

HOUSING OUTLINE DRAWING 186

| | | |
|-------------|-----------------|--------------|
| SIZE | DWG NO. | REV |
| A | OL_186 | 1 |
| SCALE: NONE | CAGE CODE 67DZ3 | SHEET 2 OF 2 |

A

B

C

D

E