

DESCRIPTION

This class A 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

Optional Heatsink

Manual or Automatic Tx/Rx Switching Available
High Speed Tx/Rx Switching Control

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 | +41.0 | +43.0 | | dBm |
| Gain | 24.0 | 26.0 | | dB |
| Gain Flatness | | 1.0 | 1.5 | ± dB |
| Input Return Loss | -10 | -12 | | dB |
| Operating Voltage | +27 | +28 | +30 | VDC |
| Current Draw | | 900.0 | 2400.0 | mA |
| Tx / Rx Switching Time | | 1.0 | 2.0 | uS |

| Rx SPECIFICATIONS | | | | |
|-------------------|-----|-------|-----|------|
| PARAMETER | MIN | TYP. | MAX | UNIT |
| P1dB Power Output | | .0 | | dBm |
| Gain | | 11.0 | | dB |
| Gain Flatness | | 0.5 | | ± dB |
| Noise Figure | | 2.0 | 2.5 | dB |
| OIP3 | | +15.0 | | dBm |
| Input Return Loss | | -10 | | dB |
| Current Draw | | 50.0 | | mA |

| 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 | 3 Pin locking | -- |
| Cooling | Baseplate Conduction - Optional Heatsink Available | -- |
| Weight | 5 | oz. |
| Weight With Heatsink | 15 | oz. |

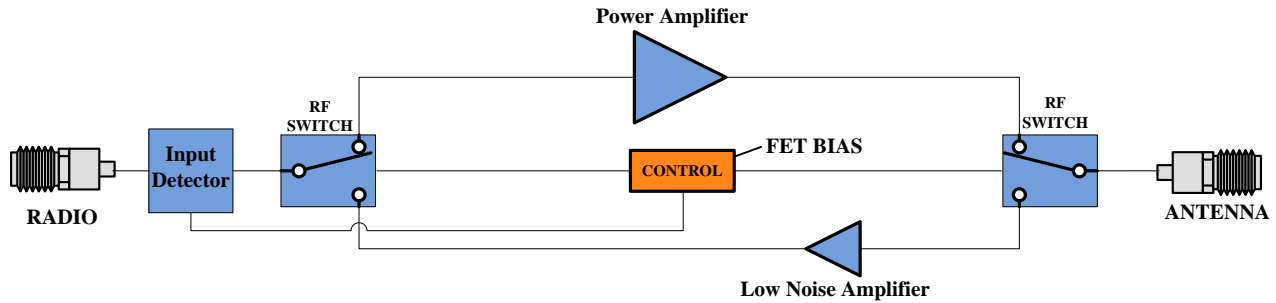
| ENVIRONMENTAL / PROTECTIONS | | | |
|---------------------------------------|-----------------------------|-----|------|
| PARAMETER | MIN | MAX | UNIT |
| Operating Temperature (Housing Temp.) | -40 | +85 | °C |
| Humidity Range | 0-100 | | % |
| Altitude | 0-30,000 | | ft. |
| Shock / Vibration | MIL-STD-810 and equivalents | | -- |
| Max RF Input | 20 | | dBm |
| PA Baseplate Shutoff Temperature | +90 | | °C |

| INPUT/OUTPUT PINS | | | | |
|----------------------------------|------------|--|-------|--------|
| AMPLIFIER CONNECTOR TYPE: | | 9 PIN MICRO-D FEMALE | | |
| TRIAD CABLE PART NUMBER: | | CBL14 | | |
| PIN LABEL | NAME | DESCRIPTION | TYPE | LEVEL |
| 1 | GND | Ground | Power | -- |
| 2 | GND | Ground | Power | -- |
| 3 | +VDC | Supply Voltage - Range Specified in Datasheet | Power | -- |
| 4 | +VDC | Supply Voltage - Range Specified in Datasheet | Power | -- |
| 5 | Amp Enable | TTL Hi or No Connection = Enable, TTL Lo = Disable | Input | 5V TTL |
| 6 | GND | Ground | Power | -- |
| 7 | +VDC | Supply Voltage - Range Specified in Datasheet | Power | -- |
| 8 | +VDC | Supply Voltage - Range Specified in Datasheet | Power | -- |
| 9 | GND | Ground | Power | -- |

| 802-11G (20 MHz BW) DATA RATE VS. OUTPUT POWER | | | |
|--|-----------|---------------|----------|
| OFDM MODULATION | DATA RATE | POUT (W) MIN. | EVM |
| 64QAM | 54 Mbps | 4 | ≤ -27 dB |
| 16QAM | 36 Mbps | 4 | ≤ -21 dB |
| QPSK | 12 Mbps | 4 | ≤ -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

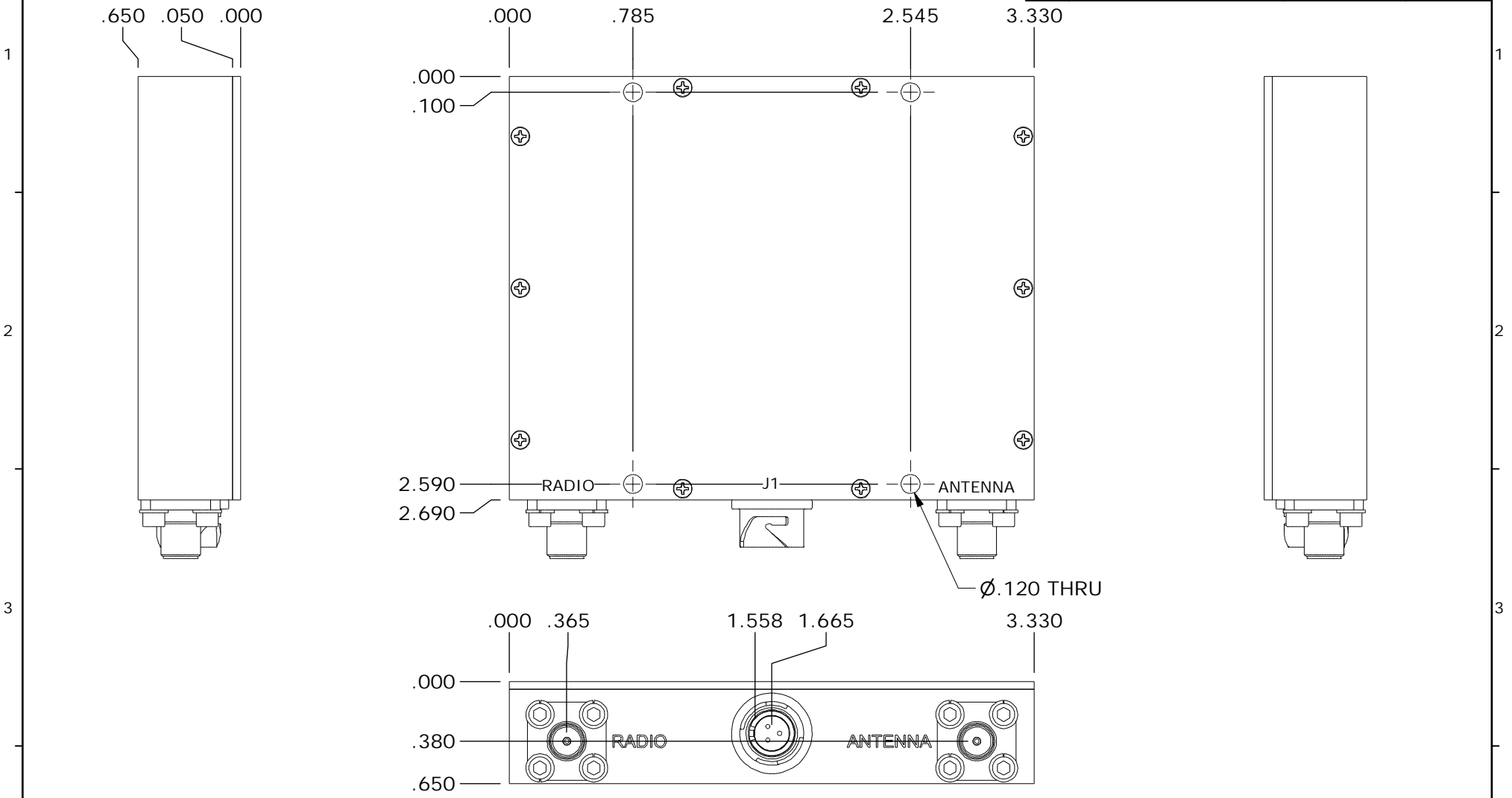
High-Level Block Diagram



| Ordering Guide – Configuration Information | | |
|--|------------------|------------------|
| 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 | 08/03/2014 | DMC |
| 1 | E18329 | 6/6/18 | SC |



| | | |
|--------------|---------|-----------|
| DRAWN | AHA | 6/17/2014 |
| DESIGNED | Stephen | 5/4/2017 |
| CHECKED | BG | 6/17/2014 |
| ENG APPROVED | | |
| MFG APPROVED | | |

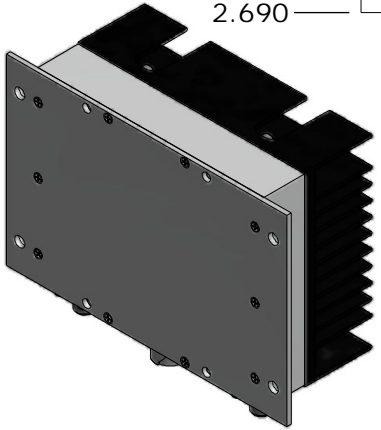
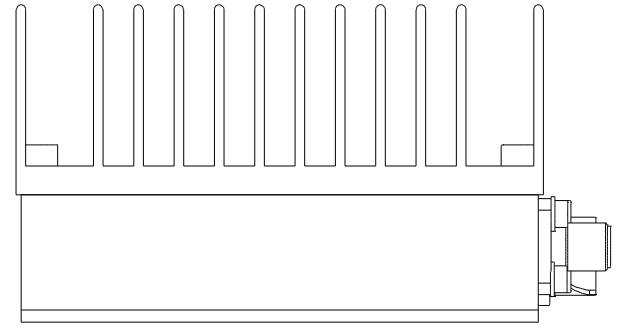
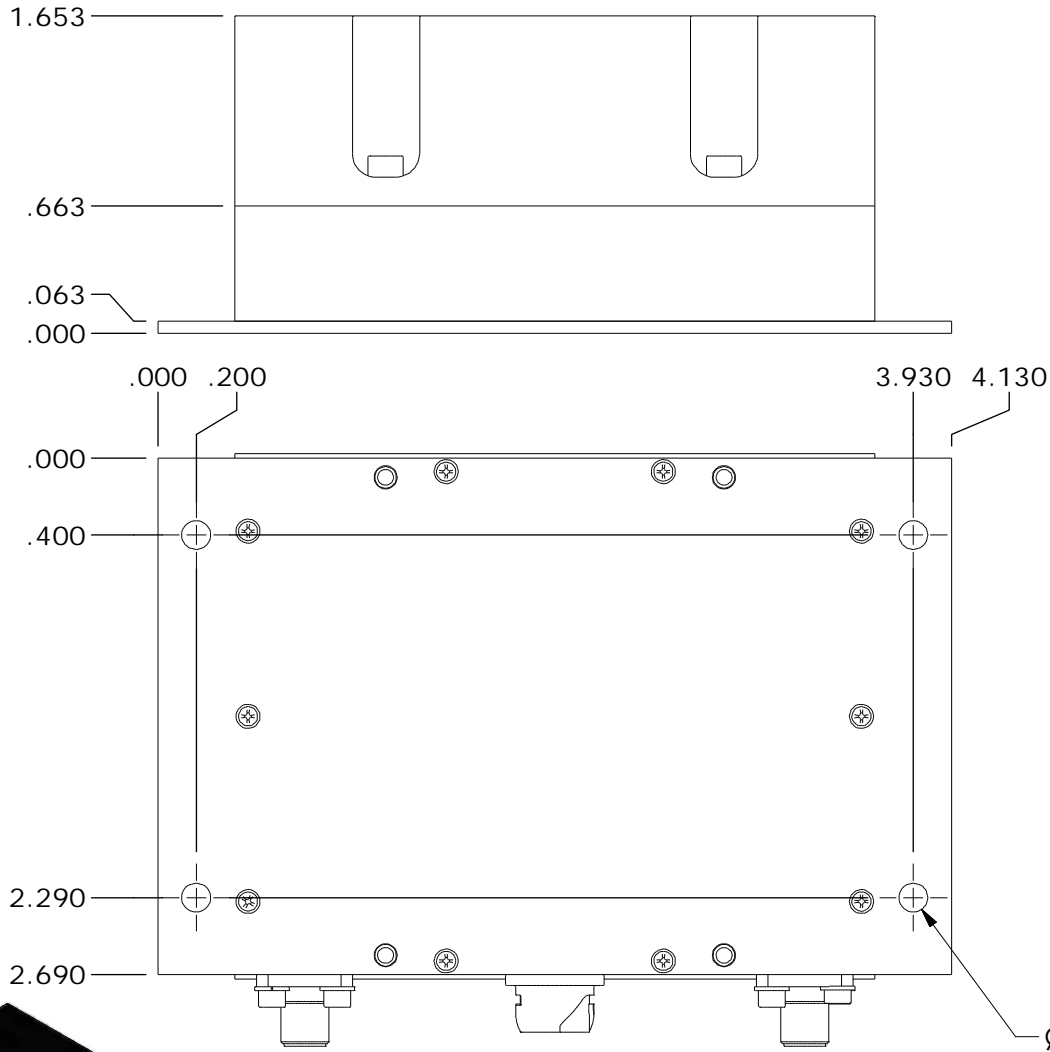
TRIAD RF SYSTEMS

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

| | | | | | |
|--|-----------|--------|-------------|-----------------|--------------|
| DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE TOLERANCES | | | SIZE | DWG NO. | REV |
| DECIMALS | FRACTIONS | ANGLES | A | OL_118 | 1 |
| XX ±.01 | ± 1/32 | ± 2° | SCALE: NONE | CAGE CODE 67DZ3 | SHEET 1 OF 3 |
| XXX ±.005 | | | | | |

A B C D E

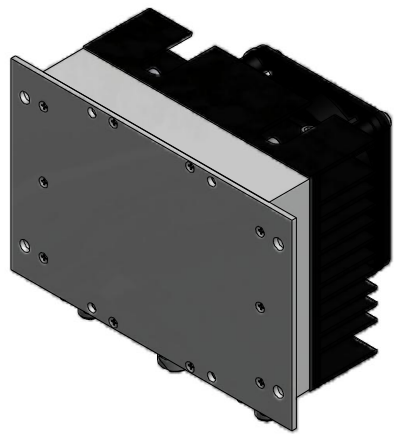
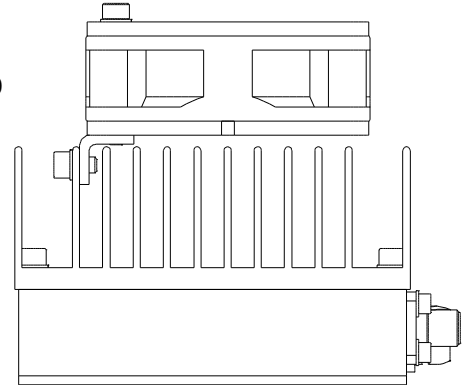
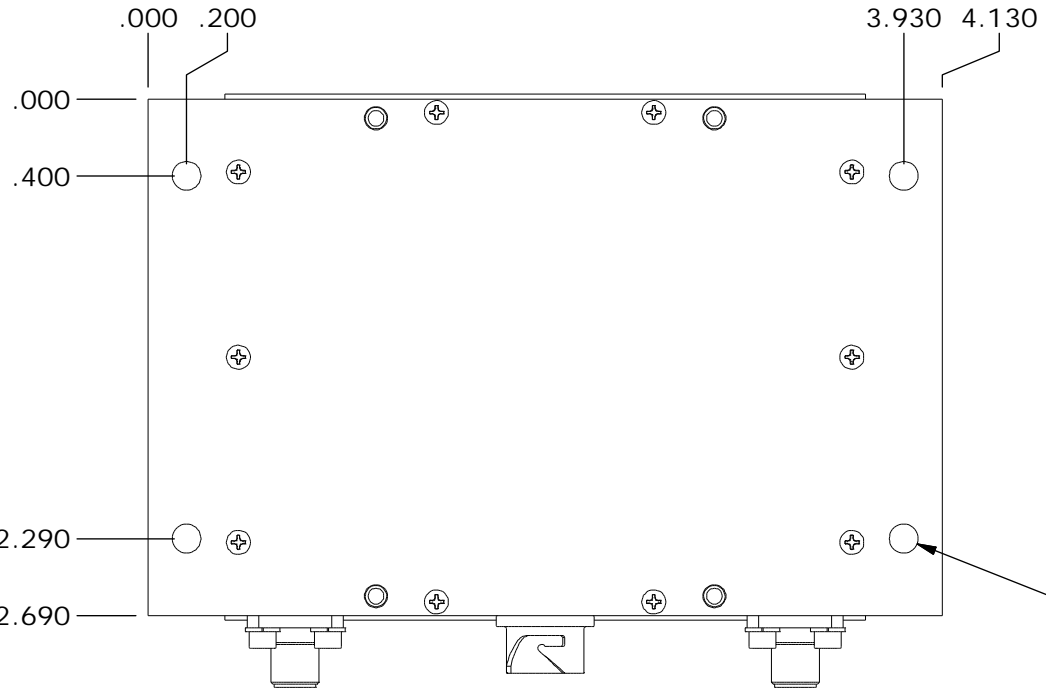
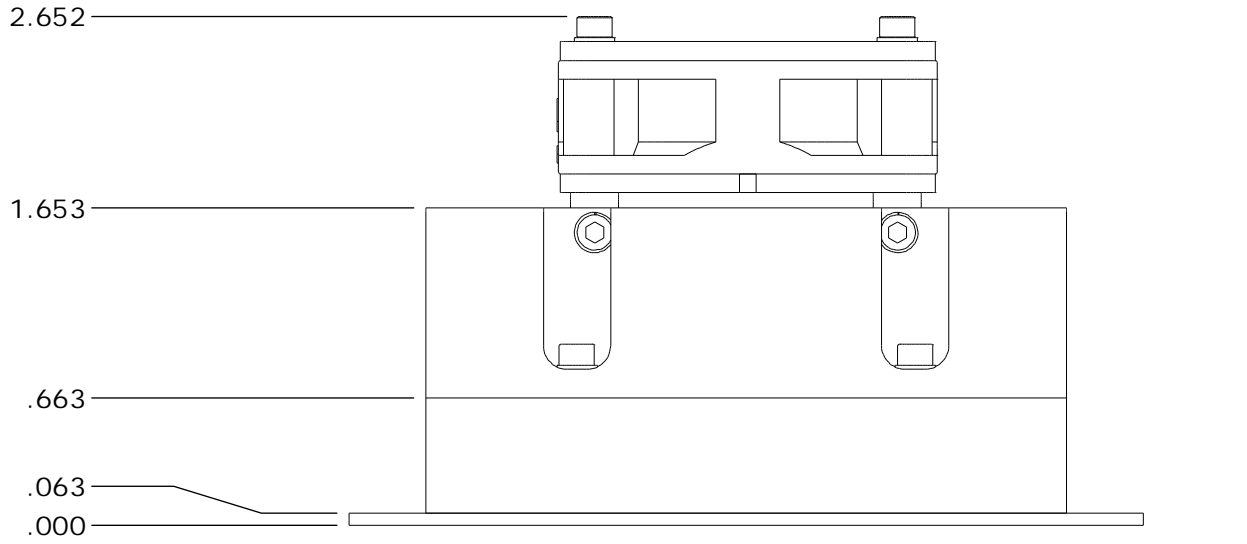
HEATSINK OPTION



A B C D E

| | | | | | |
|--------------|-----|-----------|-----------------------------|-----------------|--------------|
| DRAWN | AHA | 6/17/2014 | HOUSING OUTLINE DRAWING 118 | | |
| DESIGNED | DCH | 7/12/2013 | | | |
| CHECKED | BG | 6/17/2014 | SIZE | DWG NO. | REV |
| ENG APPROVED | | | A | OL_118 | 1 |
| MFG APPROVED | | | SCALE: NONE | CAGE CODE 67DZ3 | SHEET 2 OF 3 |

HEATSINK FAN OPTION



| | | | | | |
|--------------|---------|-----------|-----------------------------|-----------|--------|
| DRAWN | AHA | 6/17/2014 | HOUSING OUTLINE DRAWING 118 | | |
| DESIGNED | Stephen | 5/4/2017 | SIZE | DWG NO. | REV |
| CHECKED | BG | 6/17/2014 | A | OL_118 | 1 |
| ENG APPROVED | | | SCALE: NONE | CAGE CODE | 67DZ3 |
| MFG APPROVED | | | | SHEET | 3 OF 3 |