

**DESCRIPTION**

This class AB GaN 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**

Over / Under / Reverse Voltage Protection  
Temperature Output

High Speed On/Off Control  
Optional Heatsink

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

| RF / ELECTRICAL        |       |       |     |                 |
|------------------------|-------|-------|-----|-----------------|
| PARAMETER              | MIN   | TYP.  | MAX | UNIT            |
| Operating Frequency    | 20    |       | 512 | MHz             |
| PSat Power Output      | +45.0 | +46.0 |     | dBm             |
| Gain                   | 47.0  | 49.0  |     | dB              |
| Gain Flatness          |       | 2.0   |     | dB <sup>1</sup> |
| Input Return Loss      | -14   |       |     | dB              |
| Operating Voltage      | +28   | +28   | +30 | VDC             |
| Current Draw           |       | 3.8   | 4.3 | A               |
| Quiescent Current Draw |       | 2.6   |     | A               |
| Switching Time         |       | 1.0   | 2.0 | uS              |

1 – Gain flatness recorded represents a peak-peak measurement across the **entire operating band**. Gain flatness is typically much lower across significant portions of this band. Consult the gain response plots for details if available.

**MECHANICAL**

| PARAMETER                      | VALUE                                              | UNIT |
|--------------------------------|----------------------------------------------------|------|
| Dimensions (L x W x H)         | 3.15 x 2.58 x 0.7                                  | in   |
| RF Connectors (Input / Output) | SMA-F / SMA-F                                      | --   |
| DC / Control Connector         | 9 Pin D-Sub                                        | --   |
| Cooling                        | Baseplate Conduction - Optional Heatsink Available | --   |
| Mounting                       | 4-40 Thru Holes                                    | --   |
| Weight                         | 7                                                  | oz.  |
| Weight with Heatsink           | 12                                                 | oz.  |

**ENVIRONMENTAL / PROTECTIONS**

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

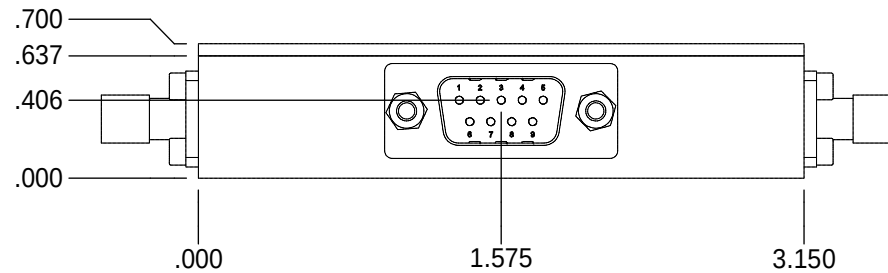
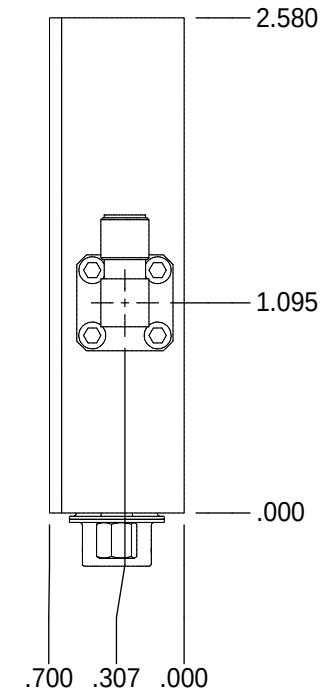
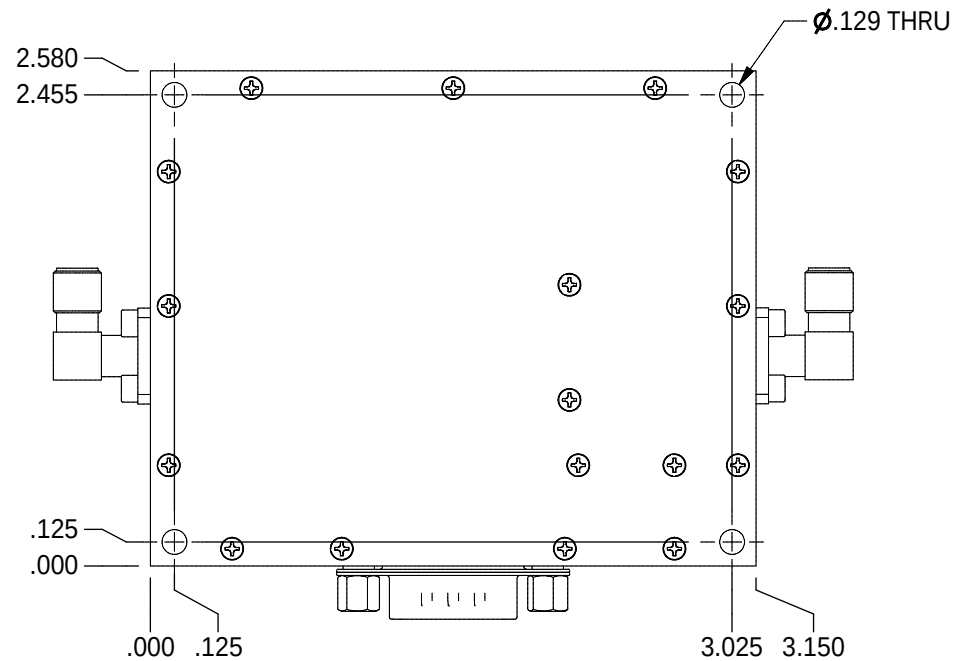
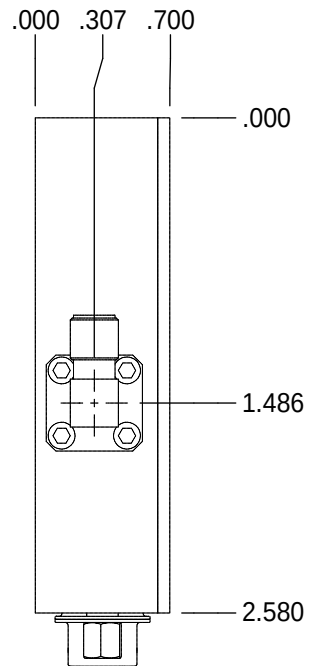
**INPUT/OUTPUT PINS**

| <b>AMPLIFIER CONNECTOR TYPE:</b> |           | 9 PIN D-SUB MALE                                   |
|----------------------------------|-----------|----------------------------------------------------|
| <b>TRIAD CABLE PART NUMBER:</b>  |           | CBL30                                              |
| PIN NUMBER                       | LABEL     | DESCRIPTION                                        |
| 1                                | I/O       | TTL Hi or No Connection = Enable, TTL Lo = Disable |
| 2                                | TEMP      | Temp Monitor: Temp in DegC = (Vout - 0.5V) *100    |
| 3                                | +VDC      | Supply Voltage - Range Specified in Datasheet      |
| 4                                | +VDC      | Supply Voltage - Range Specified in Datasheet      |
| 5                                | +VDC      | Supply Voltage - Range Specified in Datasheet      |
| 6                                | NC        | No Connection                                      |
| 7                                | TEMP TRIP | TTL Hi during over temp condition                  |
| 8                                | GND       | Ground                                             |
| 9                                | GND       | Ground                                             |

**Configuration Options**

| Model Number | Description                                                            |
|--------------|------------------------------------------------------------------------|
| TA1057       | No Heat Sink Included                                                  |
| TA1057 – HS  | Standard Heat Sink                                                     |
| TA1057 – HSF | Heat Sink with Integrated Cooling Fan                                  |
| TA1057 – HSX | Custom Heat Sink Configuration                                         |
| TA1057 – D0X | Custom Amplifier Configuration (issued by Triad upon customer request) |

| REVISIONS |                 |             |          |
|-----------|-----------------|-------------|----------|
| REV       | DESCRIPTION     | DATE        | APPROVED |
| 0         | INITIAL RELEASE | 4 / 7 / 14  | DH       |
| 1         | E18367          | 8 / 14 / 18 | SC       |

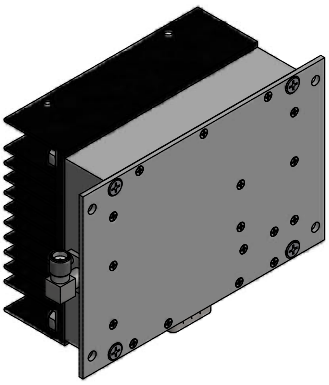
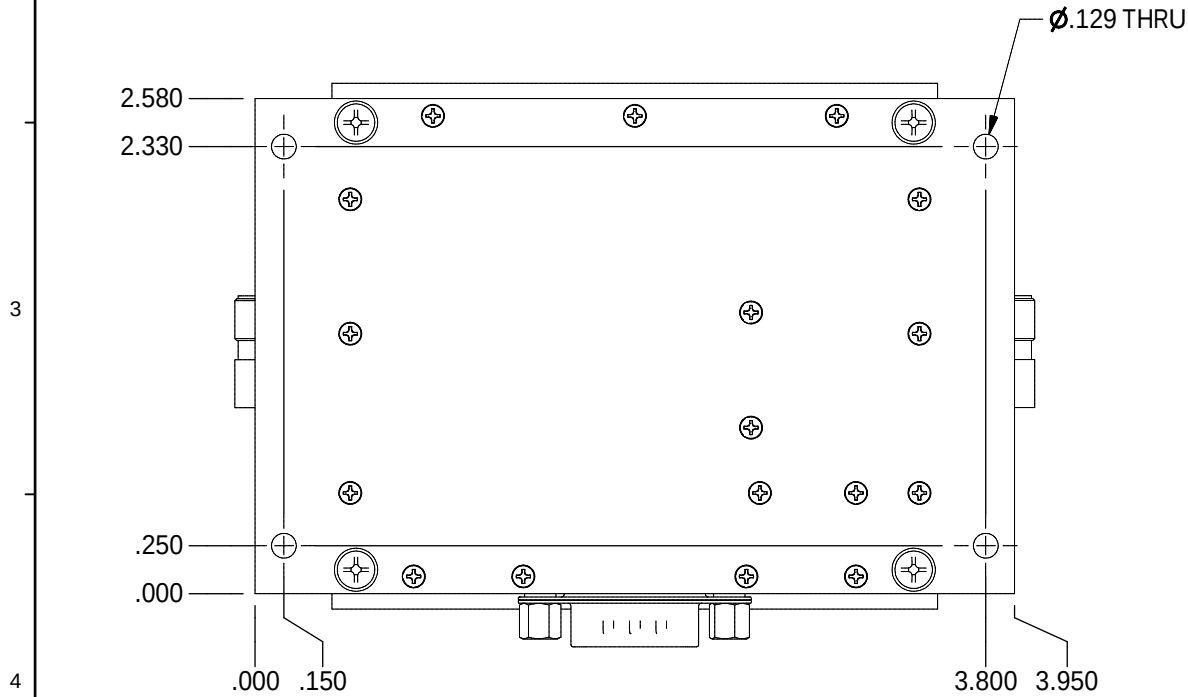
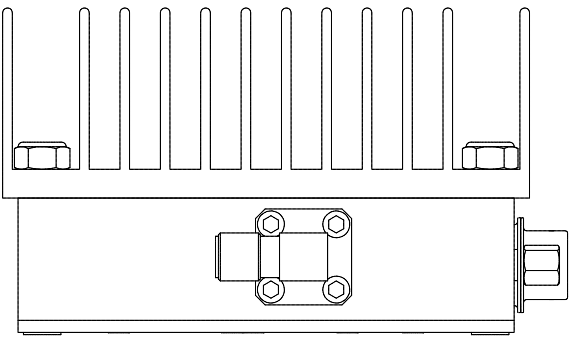
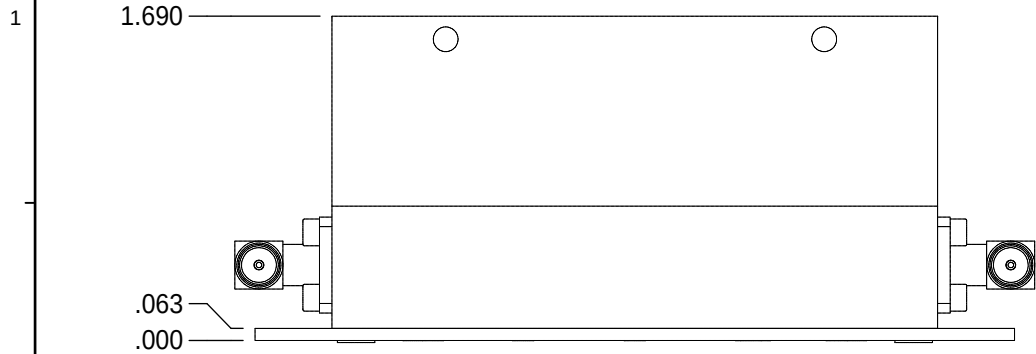


|              |      |               |
|--------------|------|---------------|
| DRAWN        | DEAN | 12 / 1 / 2015 |
| DESIGNED     | Dean | 4 / 7 / 2014  |
| CHECKED      |      |               |
| ENG APPROVED |      |               |
| MFG APPROVED |      |               |

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

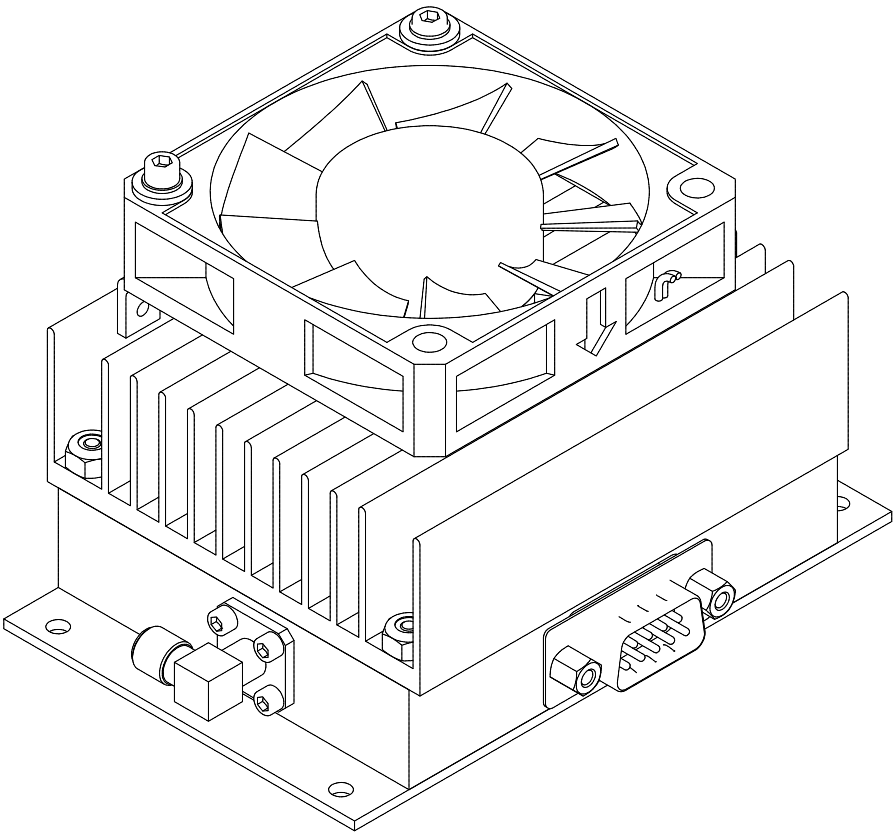
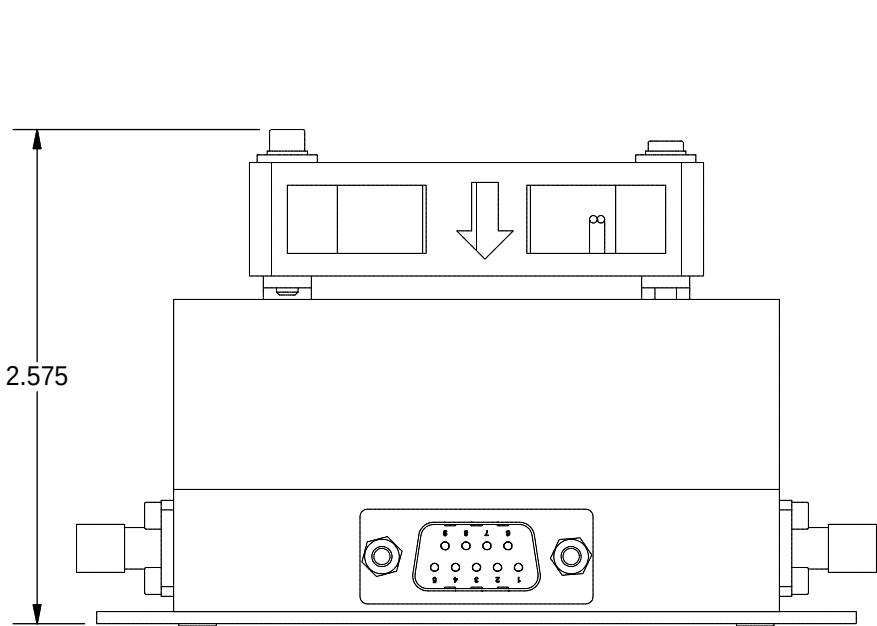
|                                                                                       |                   |                                                                        |  |
|---------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------|--|
|  |                   | 11 HARTS LANE, SUITE I<br>EAST BRUNSWICK, NJ 08816<br>855 - 558 - 1001 |  |
|                                                                                       |                   | HOUSING OUTLINE DRAWING 146                                            |  |
| SIZE<br>A                                                                             | DWG NO.<br>OL_146 | REV<br>1                                                               |  |
| SCALE: NONE                                                                           | CAGE CODE 67DZ3   | SHEET 1 OF 3                                                           |  |

HEATSINK



|              |      |           |                             |                 |              |   |
|--------------|------|-----------|-----------------------------|-----------------|--------------|---|
| DRAWN        | DEAN | 12/1/2015 | HOUSING OUTLINE DRAWING 146 |                 |              |   |
| DESIGNED     | Dean | 4/7/2014  |                             |                 |              |   |
| CHECKED      |      |           | SIZE                        | DWG NO.         |              |   |
| ENG APPROVED |      |           | A                           | OL_146          | REV          | 1 |
| MFG APPROVED |      |           | SCALE: NONE                 | CAGE CODE 67DZ3 | SHEET 2 OF 3 |   |

HEATSINK AND FAN



|              |      |           |                             |           |       |              |
|--------------|------|-----------|-----------------------------|-----------|-------|--------------|
| DRAWN        | DEAN | 12/1/2015 | HOUSING OUTLINE DRAWING 146 |           |       |              |
| DESIGNED     | Dean | 4/7/2014  |                             |           |       |              |
| CHECKED      |      |           | SIZE                        | DWG NO.   | REV   |              |
| ENG APPROVED |      |           | A                           | OL_146    | 1     |              |
| MFG APPROVED |      |           | SCALE: NONE                 | CAGE CODE | 67DZ3 | SHEET 3 OF 3 |