

DESCRIPTION

This class A GaAs 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

Auto Gain Control

Optional Heatsink

Temperature Output

Over / Under / Reverse Voltage Protection

Specifications subject to change without notice. Typical performance at +12VDC +25°C, and in a 50Ω system.

| RF / ELECTRICAL | | | | |
|------------------------|-------|-------|-------|-----------------|
| PARAMETER | MIN | TYP. | MAX | UNIT |
| Operating Frequency | 14400 | | 15400 | MHz |
| P1dB Power Output | +34.0 | +35.0 | | dBm |
| Gain | | 43.0 | | dB |
| Gain Flatness | | 0.5 | 1.3 | dB ¹ |
| Input Return Loss | -10 | -13 | | dB |
| Operating Voltage | +11 | +12 | +13 | VDC |
| Current Draw | | 1.4 | 1.5 | A |
| Quiescent Current Draw | | 0.2 | | 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) | 3.25 x 2.265 x 0.5 | in |
| RF Connectors (Input / Output) | SMA-F / SMA-F | -- |
| DC / Control Connector | Feedthru Pins | -- |
| Cooling | Baseplate Conduction - Optional Heatsink Available | -- |
| Mounting | 4-40 Thru | -- |
| Weight | 4 | oz. |
| Weight with Heatsink | 14 | 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 | -5 | | dBm |
| PA Baseplate Shutoff Temperature | + 90 | | °C |

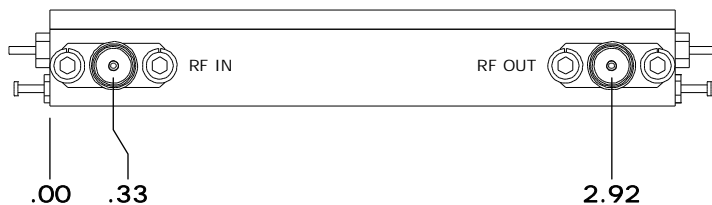
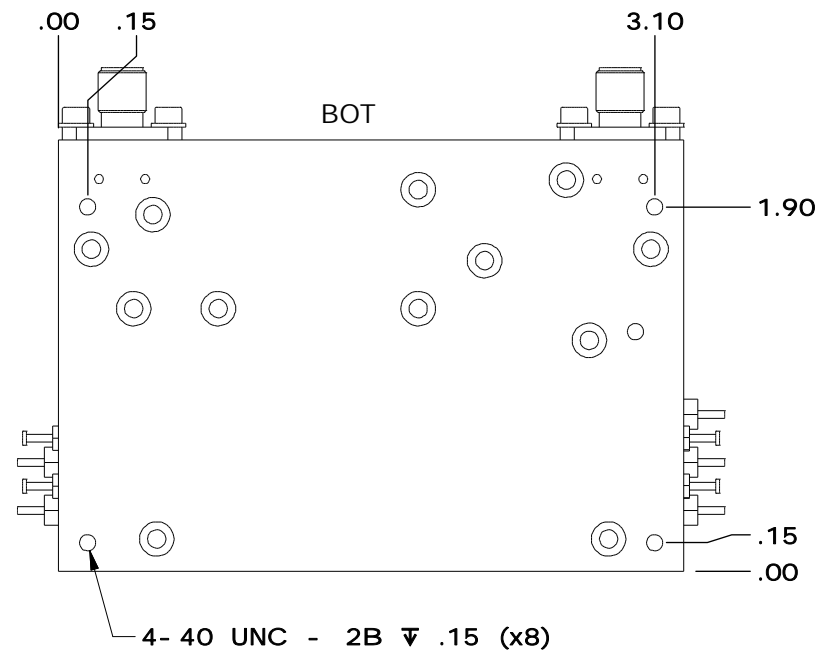
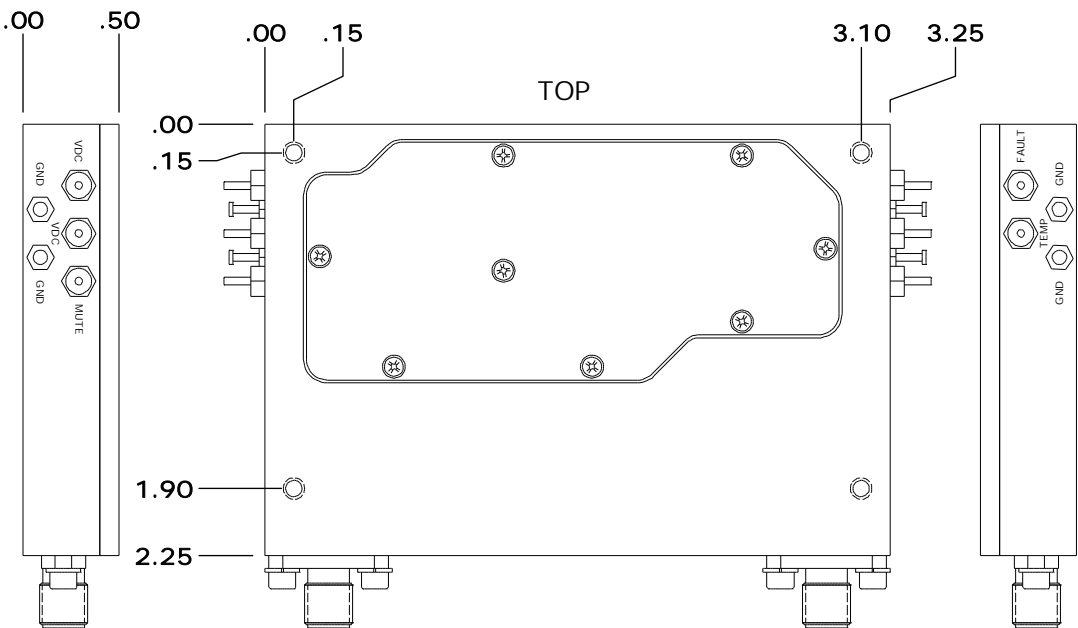
INPUT/OUTPUT PINS

| AMPLIFIER CONNECTOR TYPE: | | FEEDTHROUGH PINS |
|----------------------------------|-------------|--|
| TRIAD CABLE PART NUMBER: | | N/A |
| PIN NUMBER | LABEL | DESCRIPTION |
| 1 | +VDC | Supply Voltage - Range Specified in Datasheet |
| 2 | +VDC | Supply Voltage - Range Specified in Datasheet |
| 3 | MUTE | TTL Hi or No Connection = Amp Enabled, TTL Lo = Amp Muted |
| 4 | AGC Disable | Auto Gain Control Disable- No connection or TTL Lo= AGC On, TTL Hi =AGC Disabled |
| 5 | TEMP | Temp Monitor: Temp in DegC = (Vout - 0.5V) / 10 |
| 6 | FAULT | Auto Internal Fault Detection- Low= No Fault, High= Internal Fault |
| 7-10 | GND | Ground |

Configuration Options

| Model Number | Description |
|--------------|--|
| TA1149 | No Heat Sink Included |
| TA1149 – HS | Standard Heat Sink |
| TA1149 – HSF | Heat Sink with Integrated Cooling Fan |
| TA1149 – HSX | Custom Heat Sink Configuration |
| TA1149 – DOX | Custom Amplifier Configuration (issued by Triad upon customer request) |

| REVISIONS | | | |
|-----------|-----------------|---------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| 0 | INITIAL RELEASE | 4/16/13 | DMC |



| PIN FUNCTION | | | |
|--------------|--------------------------------------|----------------|--|
| PIN | FUNCTION | TYPE | RANGE |
| VDC | PRIME POWER INPUT | ANALOG INPUT | 12-18 VDC |
| GND | PWR/CNTRL SIGNAL RETURN | CHASSIS GROUND | - |
| MUTE | ENABLES/DISABLES THE AMPLIFIER | TTL INPUT | TTL HIGH OR OPEN - ON, TTL LOW - OFF, +15VDC MAX |
| FAULT | CURRENT DRAW OUT OF RANGE INDICATOR | TTL OUTPUT | TTL HIGH - ABNORMAL CURRENT DRAW, TTL LOW - NORMAL OPERATION |
| TEMP | ANALOG BASEPLATE TEMPERATURE VOLTAGE | ANALOG OUTPUT | 0 - 1.25V, TEMP=(Vt - .5) x 100 C |

WEIGHT: 6 oz.

| | | |
|--------------|-----|-----------|
| DRAWN | DMC | 4/16/2013 |
| DESIGNED | DMC | 3/13/2013 |
| CHECKED | | |
| ENG APPROVED | | |
| MFG APPROVED | | |



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EAST BRUNSWICK NJ 08816
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HOUSING OUTLINE DRAWING 133

| | | | | |
|--|-----------|--------|-------------|-----------------|
| DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE TOLERANCES | | SIZE | DWG NO. | REV |
| DECIMALS | FRACTIONS | ANGLES | A | 0 |
| XX ±.01 | ± 1/32 | ± 2° | OL_133 | |
| XXX ±.005 | | | SCALE: NONE | CAGE CODE 67DZ3 |
| | | | | SHEET 1 OF 1 |