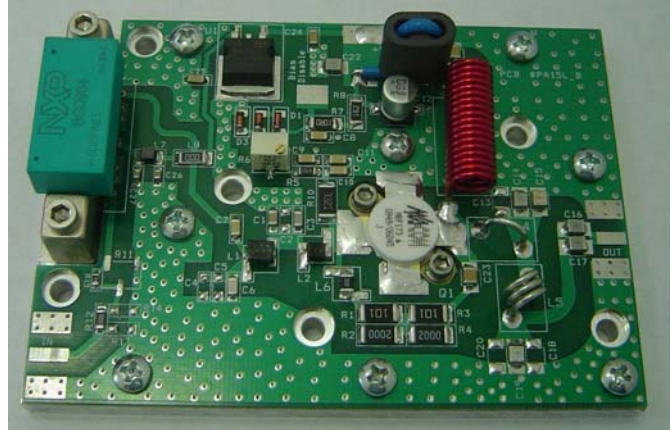


Model VHFTV-15H TV Pallet Amplifier Module

This amplifier module is ideal for driver stages in analog and digital TV broadcast equipment.

- 170– 230MHz
- 28Volts
- Pout: 15W Peak Sync analog.
- 38dB Gain Class A
- MACOM MRF173 Mosfet
- Made in the USA

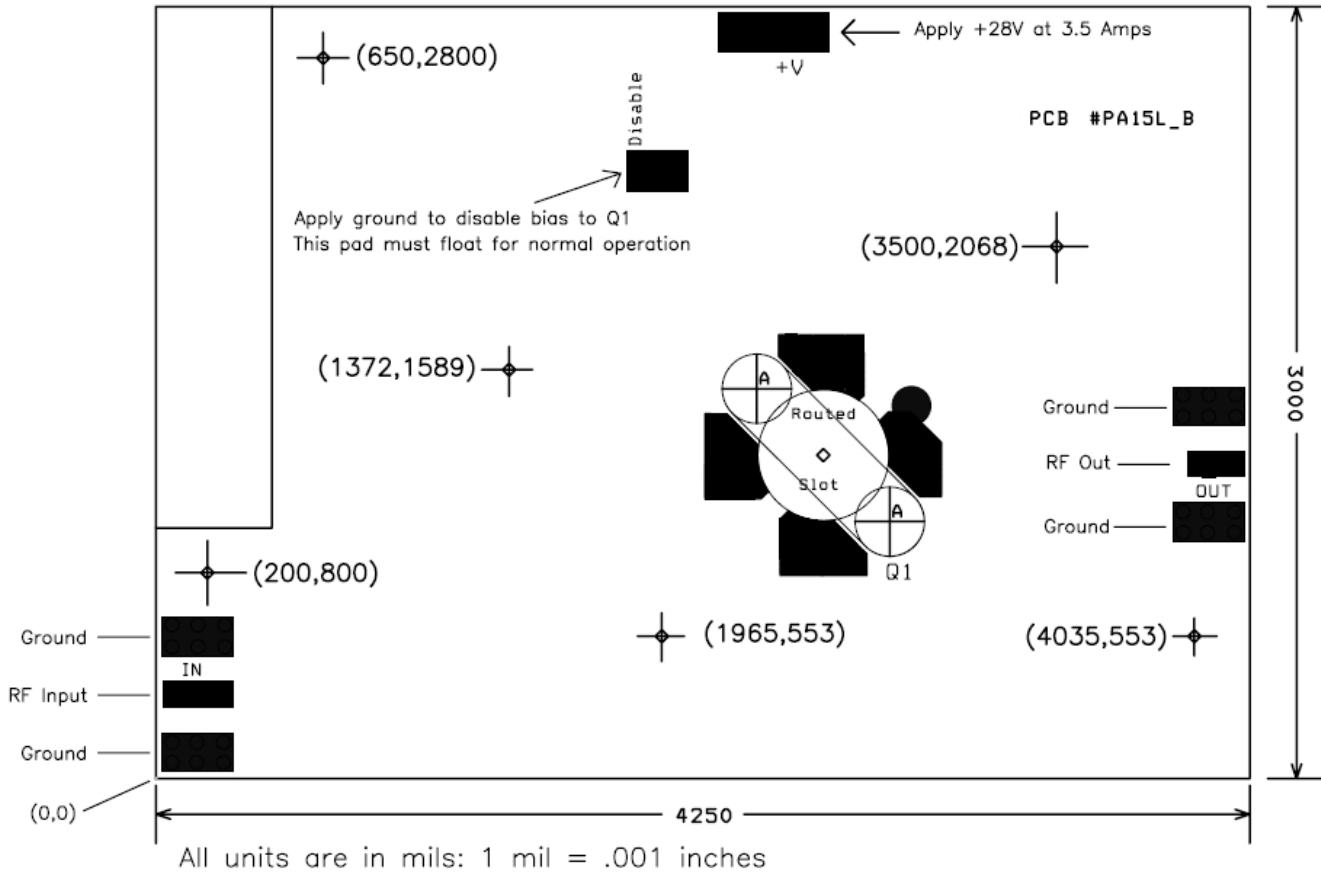


Dimension (L x W x H inch) [4.25" x 3.0" x 0.75"]

| Absolute Maximum Ratings | | | |
|--------------------------|--|-----------|---------|
| Symbol | Parameter | Value | Unit |
| Vs | Drain voltage supply | 28 | V DC |
| Is | Supply Current | 4.0 | A dc |
| VSWR | Load Mismatch (All phase angles, Id=12A) | 10 to 1 | |
| Tc | Base plate operating temperature | 0 to +60C | Celsius |
| RF IN | RF Input | 13 | dBm |

| Electrical Specifications: 28VDC 3.5A | | | | |
|--|-----|--------|-----|---------|
| Characteristics | min | typ | max | unit |
| Operating Frequency range | 170 | | 230 | MHz |
| Power Input | | 5 | 13 | dBm |
| Input return loss | -12 | -15 | | dB |
| Power Gain | 36 | 38 | | dB |
| Collector Efficiency | | 15 | | % |
| Supply Voltage | | 28 | | V dc |
| Insertion Phase variation (unit to unit) | | +/-5.0 | | degrees |
| Power gain (unit to unit) | | +/-0.5 | | dB |
| Two Tone IMD; 15W pep 1MHz sp | | -40 | | dBc |
| F2 Second Harmonic | | -30dB | | dB |
| F3 Third Harmonic | | -40dB | | dB |
| Bias Current: Factory set to 3.0A @28V. for Q1 | 3.0 | 3.0 | 3.0 | A dc |
| DVB-T Power | | TBD | | W |
| 8VSB Power | | TBD | | W |
| Analog Power | | 15 | | W |

Amplifier Drawing: Figure 1



Heatsink Mounting/Hardware

Tips for Mechanical Mounting:

- 1 All mounting holes designated in (X, Y) format are 0.156 inch thru and they are deigned for a #6 Screw. Stainless Steel mounting hardware is recommended, grade 18-8 or better. A lock washer of same material should also be used.
- 2 Ensure mounting surface is flat to better than 0.0025"
- 3 Use a thin layer of thermal compound on the backside of the PA - no more than 0.001" - 0.002" thickness!
- 4 Torque all screws to 10-12 in-lbs

Warning: Failure to use a proper heat sink will reduce product service life and may cause the transistors to burn out. This type of failure is not covered by warranty. This product can be ordered with a custom heat sink. Please contact factory for more information.

Bias Settings:

The factory bias settings are 3.0A @ 28V for Q1. The NXP CATV class A driver stage and its associated voltage regulator consume 0.5A. This results in a total current draw of 3.5 Amps at 28 volts. Do not attempt to adjust the bias on Q1. Increasing or decreasing the bias of Q1 will reduce the IMD performance of the amplifier.

Applications:

This driver amplifier is ideal for driving (1) 200W or (1) 400W TV pallet. This amplifier can be driven directly by most TV modulators. A modulator capable of at least 58dBmv (10mw) should be used.