

## Solid State Matched Band High Power Amplifier

**5003 - MBM3436KO**
**3.4 - 3.6GHz / 100Watts**

The MBM3436KO (SKU# 5003) is suitable for high power linear applications in the new WLL frequency range. This amplifier utilizes linear GaAsFET power devices that provide excellent linearity, high gain, and wide dynamic range. Exceptional performance, long term reliability, and high efficiency are achieved by employing advanced broadband matching networks and combining techniques, built-in sequence regulators, EMI/RFI filters, machined housing, and qualified components. Empower RF's ISO9001 Quality Assurance Program assures consistent performance and the highest reliability.



- Solid-state Class A linear design
- Instantaneous broadband
- Small and lightweight
- Suitable for all modulation types
- 50 Ohm Input/Output impedance
- High reliability and ruggedness
- Built-in control monitoring & protection circuits

### ELECTRICAL SPECIFICATIONS @ VDD=+12VDC, T=25°C, 50Ω System

| Parameter   | Symbol            | Min | Typ | Max | Unit |
|---|-------------------|-----|-----|-----|------|
| Operating Frequency   | BW                | 3.4 |     | 3.6 | GHz  |
| Power Output CW   | P <sub>SAT</sub>  | 100 |     |     | Watt |
| Power Output @ 1dB G.C.P  | P <sub>1dB</sub>  | 80  |     |     | Watt |
| Power Output, Meeting ETSI Mask (16-QAM)                            | P <sub>QAM</sub>  |     | 30  |     | Watt |
| Input Power for nominal Pout  | P <sub>IN</sub>   |     | 0   |     | dBm  |
| Small Signal Gain   | SSG               | 50  |     |     | dB   |
| Small Signal Gain Flatness  | ΔG                |     |     | ±1  | dB   |
| Gain Changes with Temperature                                       | ΔG <sub>T</sub>   |     |     | ±1  | dB   |
| Return Loss Input/Output  | S11               |     |     | -10 | dB   |
| Noise Figure  | NF                |     | 7   | 10  | dB   |
| Third Order Intercept Point<br>2-Tones, Pout = 10W Avg., Δ = 100KHz | IP3               |     | +60 |     | dBm  |
| Harmonics @ 1dB G.C.P   | H                 |     |     | -30 | dBc  |
| Spurious Signals  | Spur              |     | -70 | -60 | dBc  |
| Operating Voltage   | VDC               | 11  | 12  | 13  | Volt |
| Current Consumption @ 100W Output                                   | I <sub>DD</sub>   |     |     | 35  | Amp  |
| Test port coupling  | TP <sub>cup</sub> |     | 30  |     | dB   |

### MECHANICAL SPECIFICATIONS

| Parameter                             | Value                            | Units | Limits |
|---------------------------------------|----------------------------------|-------|--------|
| Dimensions / With Heatsink            | 12.75x7.6x1.1 / 14.25x8.6x2.5    | Inch  | Max    |
| Weight / With Heatsink                | 10 / 20                          | lb.   | Max    |
| RF Connectors Input / Sample / Output | SMA / SMA female / Type-N female |       |        |
| DC / Control Interface                | DC Terminal Lugs / D-sub 9-Pins  |       |        |
| Cooling                               | External Forced Air              |       |        |

### ENVIRONMENTAL CHARACTERISTICS

| Parameter                          | Symbol           | Min    | Typ      | Max | Unit |
|------------------------------------|------------------|--------|----------|-----|------|
| Operating Case Temperature         | T <sub>c</sub>   | -25    |          | +60 | °C   |
| Storage Temperature                | T <sub>stg</sub> | -40    |          | +85 | °C   |
| Relative humidity w/o condensation | RH               | 95     |          |     | %    |
| Altitude                           | ALT              | 13,000 | 30,000   |     | Feet |
| Shock / Vibration                  | SH / VI          |        | Airborne |     |      |

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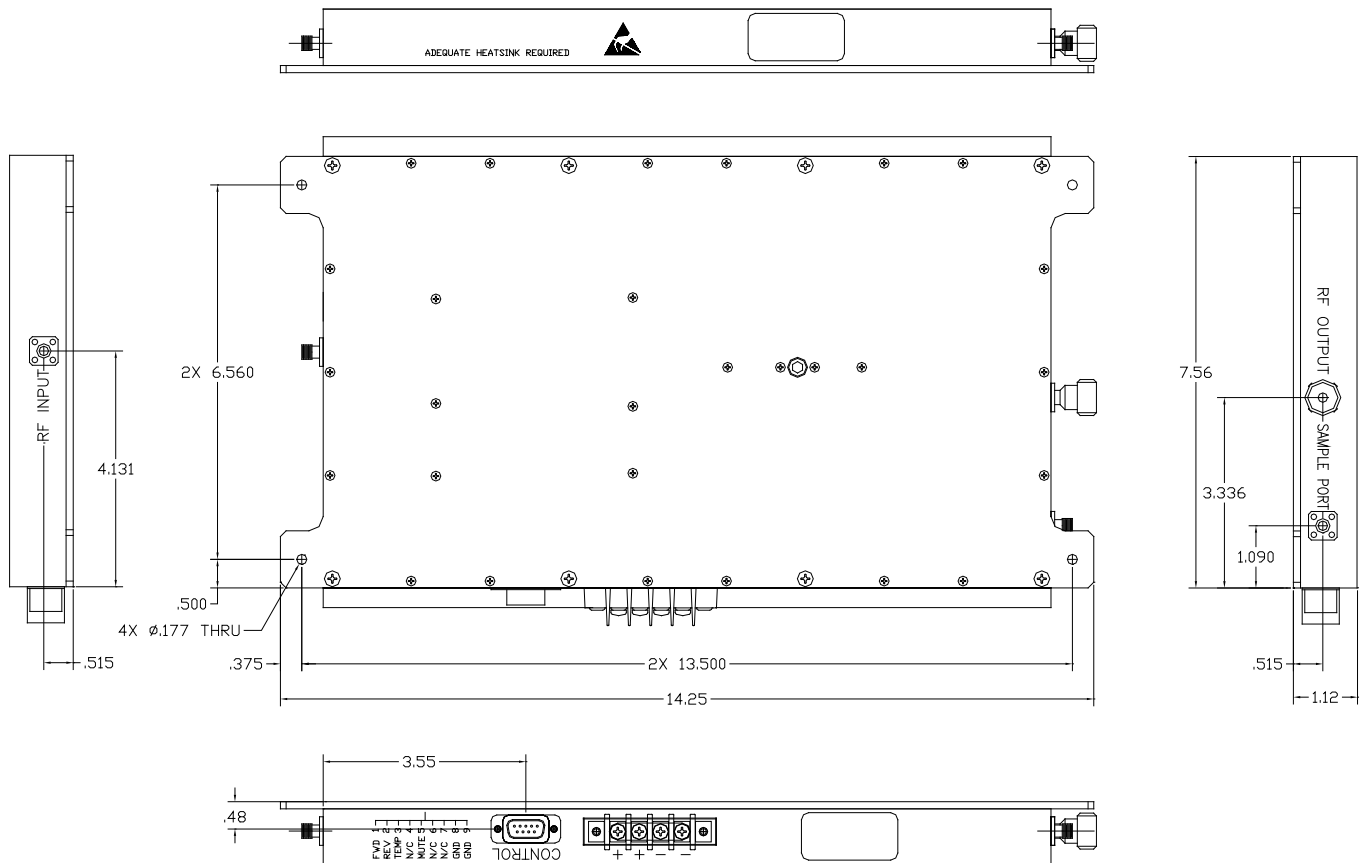
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### PROTECTIONS

|                             |          |    |     |    |
|-----------------------------|----------|----|-----|----|
| Load VSWR @ 80W - 5 Seconds | $\Psi$   |    | 5:1 | -  |
| Thermal Overload            | $T_{OL}$ | 75 |     | °C |

### OUTLINE DRAWING



### D-Sub, 9-Pins Connector

1. Fwd. Detect (Analog)
2. Rev. Detect (Analog)
3. Temp. Alarm 75°C (TTL)
4. NC
5. Mute (On/Off) TTL
- 6, 7. NC
- 8, 9. GND