RADITEK INC.

RoHS COMPLIANT

code-e7

# LDMOS Power Linear Amplifier, Ultra Broadband

## 20-100MHz, 52dB Gain, SMA Female Connectors, 80 Watts

## RAMP-20-1000M-52d-Sf-80W-e7

This amplifier utilizes silicon LDMOS power devices that provide high gain, wide dynamic range, low distortion and good linearity.

- Solid-state Class AB linear design
- Extremely wide instantaneous bandwidth
- Compact and lightweight
- M&C Monitor and Control
- Suitable for all modulation schemes, ATSC, DVB-T, MediaFLO
- 50 ohm input and output impedance
- Highly rugged and reliable

### ELECTRICAL SPECIFICATIONS

| Parameter | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Operating Frequency | BW | 20 | | 1000 | MHz |
| Power Output (CW) | $P_{SAT}$ | 80 | | | Watt |
| Output Power @ 1 dB Gain Compression Point | $P_{1dB}$ | 50 | | | Watt |
| Output Power @ DVB-T Modulation | $P_{MOD}$ | | 20 | | Watt |
| Peak to Average Ratio | PAR | | 8.3 | | dB |
| Small Signal Gain | $G_{1dB}$ | 49 | 52 | 55 | dB |
| Input Power for Rated $P_{out}$ | $P_{IN}$ | | 0 | | dBm |
| Small Signal Gain Flatness | $\Delta G$ | | | ±1.5 | dB |
| Gain Adjustment Range | VVA | 25 | 30 | | dB |
| Input Return Loss | S11 | | | -10 | dB |
| Noise Figure @ Max Gain | NF | | | 10 | dB |
| Third Order Intercept Point<br>2-Tones @ 43 dBm/Tone, $\Delta$ = 0.1 – 30MHz | IP3 | | +53 | | dBm |
| Harmonics @ rated $P_{1dB}$ | $2^{nd}$ / $3^{rd}$ | | -40 / -20 | | dBc |
| Spurious Signals | Spur | | | -60 | dBc |
| Operating Voltage | VDC | 26 | 28 | 30 | Volt |
| Supply Current @ 80 Watts RF Output | $I_{DD}$ | | | 9.0 | Amp |
| Quiescent Current | $I_{DQ}$ | | 6.2 | | Amp |
| Switching Speed (10% to 90%) | $T_{SW}$ | | 2 | 5 | µs |

### ENVIRONMENTAL CHARACTERISTICS

| Parameter | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Operating Case Temperature | Tc | -40 | | +85 | °C |
| Storage Temperature | Tstg | -40 | | +85 | °C |
| Relative Humidity (non-condensing) | RH | 95 | | | % |
| Altitude | ALT | | 40,000 | | Feet |
| Shock and Vibration | SH / VI | MIL-STD-810F | | | |

### MECHANICAL SPECIFICATIONS

| Parameter | Value | Units | Limits |
|---|---|---|---|
| Dimensions | 6.4 x 3.4 x 1.1 | Inch | Max |
| Weight | 1.0 | lb. | Max |
| RF Connectors, Input/Output | SMA female | | |
| DC Connectors | D-Sub, 9-Pins | | |
| Cooling | External Heatsink | | |



WORLD HQ: 1702L Meridian Ave. Suite 127, San Jose, Ca 95125, U.S.A.
Tel: (408) 266-7404 FAX: (408) 266-4483
WEB: www.raditek.com E-mail: sales@raditek.com

# LDMOS Power Linear Amplifier, Ultra Broadband

## 20-100MHz, 52dB Gain, SMA Female Connectors, 80 Watts

## RAMP-20-1000M-52d-Sf-80W-e7

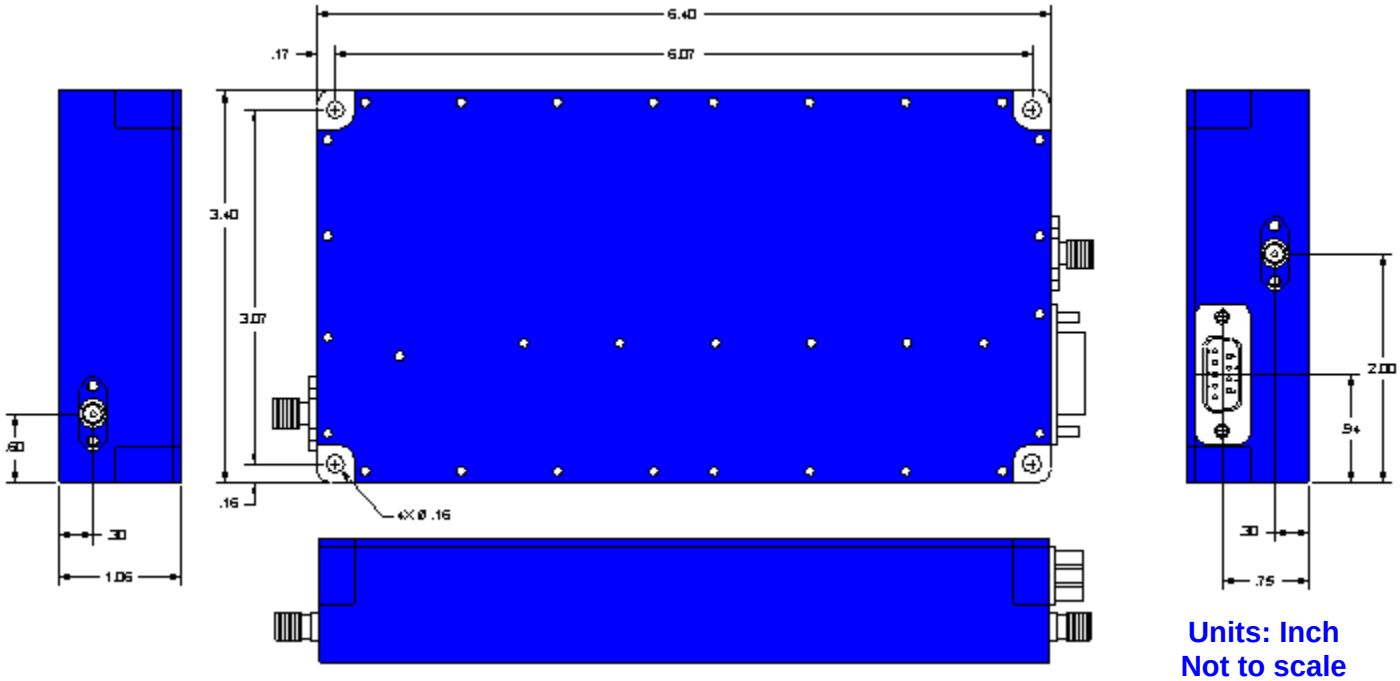
### PROTECTIONS

| | | |
|---|---|---|
| Input Overdrive | +10 dBm | Max |
| Load VSWR @ Pout = 80W | ∞:1 @ all load phase and amplitude | Nom |
| Thermal Overload | Graceful degradation | Max |

### INTERFACE CONNECTOR – D-Sub, 9-Pin

| Pin # | Description | Specifications |
|---|---|---|
| 1 | Reserved | N/C |
| 2 | Current Consumption Monitor | Analog voltage relative to ID @ 50 mV/100 mA |
| 3 | Temperature Monitor | Analog voltage relative to module's temperature @ 10 mV/°C |
| 4 | VVA | N/A |
| 5 | Shutdown | Amplifier Enable: TTL "Low" (Logic 0)<br>Amplifier Disable: TTL "High" (Logic 1) |
| 6, 7 | VDD | +28 VDC ± 2 VDC |
| 8, 9 | GND | Ground |

**Adequate Heat Sink Required**
**OUTLINE DRAWING**




**Units: Inch**
**Not to scale**



WORLD HQ: 1702L Meridian Ave. Suite 127, San Jose, Ca 95125, U.S.A.
Tel: (408) 266-7404 FAX: (408) 266-4483
WEB: www.raditek.com E-mail: sales@raditek.com