



DESCRIPTION

The P50-FM-30 is an LDMOS-based integrated amplifier building block which requires only power, input and output connections. This highly cost-effective amplifier has been designed for FM radio transmitter integrators and offers a great deal of flexibility. Utilizing new plastic-based LDMOS transistor technology, high performance at a reasonable cost is achieved. This amplifier is suitable for use as a driver or output stage for LPFM applications.

- No RF assembly or circuit tuning
- 50 watts typical output power
- 32dB typical gain at 88-108MHz
- Amplifier disable

TECHNICAL SUMMARY

| | |
|--------------------|---------------|
| Frequency Range: | 88 to 108 MHz |
| P1dB: | 50 Watts CW |
| Class: | C |
| Supply Voltage: | 12.5 V |
| Gain: | 30 dB |
| Efficiency: | 65 % |
| Temperature Range: | 0 to +60 °C |
| Max VSWR: | 3 : 1 |

ELECTRICAL SPECIFICATIONS

| Parameter | Min | Typ | Max | Units | Notes |
|---------------------------|-----|-------|-------|--------------------|--------------|
| Frequency | 88 | | 108 | MHz | |
| P1dB | 50 | | | W, CW | |
| Power Input | | 0.03 | 0.05 | W, CW | |
| Gain | 30 | 32 | | dB | |
| Vsupply | 12 | 12.5 | 14 | V, DC | |
| Drain Current | | 6.0 | | A, DC | |
| Input VSWR | | 1.3:1 | 1.5:1 | | |
| Insertion Phase Variation | | ±5 | | ° | Unit to unit |
| Gain Variation | | ±1 | | dB | Unit to unit |
| F2 Second Harmonic | | -55 | | dBc | |
| F3 Third Harmonic | | -55 | | dBc | |
| Operating Temperature | 0 | | +60 | °C | |
| Physical Dimensions | | | | 2.0" x 4.0" x 0.8" | |

All specifications valid for 50 Ω output load, $V_{sup} = +12.5VDC$, $I_{dq} = 0.1A$

ABSOLUTE MAXIMUM RATINGS

| Parameter | Value | Units | Notes |
|-------------------------------------|-------------|-------|---------------------|
| Maximum Operating Voltage | 14.5 | V, DC | |
| Stable Operating Voltage | 12 to 14 | V, DC | |
| Maximum Bias Current, Q100 | 0.2 | A, DC | Factory set to 0.0A |
| Maximum Bias Current, Q101 | 0.5 | A, DC | Factory set to 0.1A |
| Maximum Drain Current | 8 | A, DC | |
| Load Mismatch Survival | 3:1 | | |
| Storage Temperature | -40 to +105 | °C | |
| Max Operating Baseplate Temperature | +65 | °C | |

FEATURES

- Amplifier disable
- Current sense, each transistor
- Connectorized power