

The RF Line

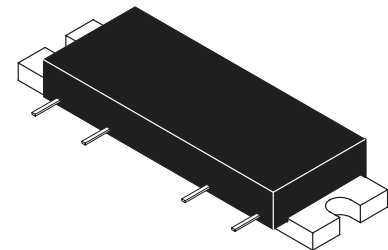
CDMA Band RF Linear LDMOS Amplifier

Designed for Class AB amplifier applications in 50 ohm systems operating in the 1800 to 1900 MHz frequency band. A silicon FET design provides outstanding linearity and gain. In addition, the excellent group delay and phase linearity characteristics are ideal for digital CDMA and GSM modulation systems.

- Typical CDMA Performance: 1840 MHz, 28 Volts
IS-95 CDMA Pilot, Sync, Paging, Traffic Codes 8 Through 13
- Adjacent Channel Power: -51 dBc @ 30 dBm Average Power, 885 kHz Channel Spacing
- Power Gain: 24.5 dB Min (@ f = 1840 MHz)
- Excellent Phase Linearity and Group Delay Characteristics
- Ideal for Feedforward Base Station Applications

MHPA18010

1805–1880 MHz
10 W, 24.5 dB
RF HIGH POWER LDMOS AMPLIFIER



CASE 301AP-02, STYLE 3

MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

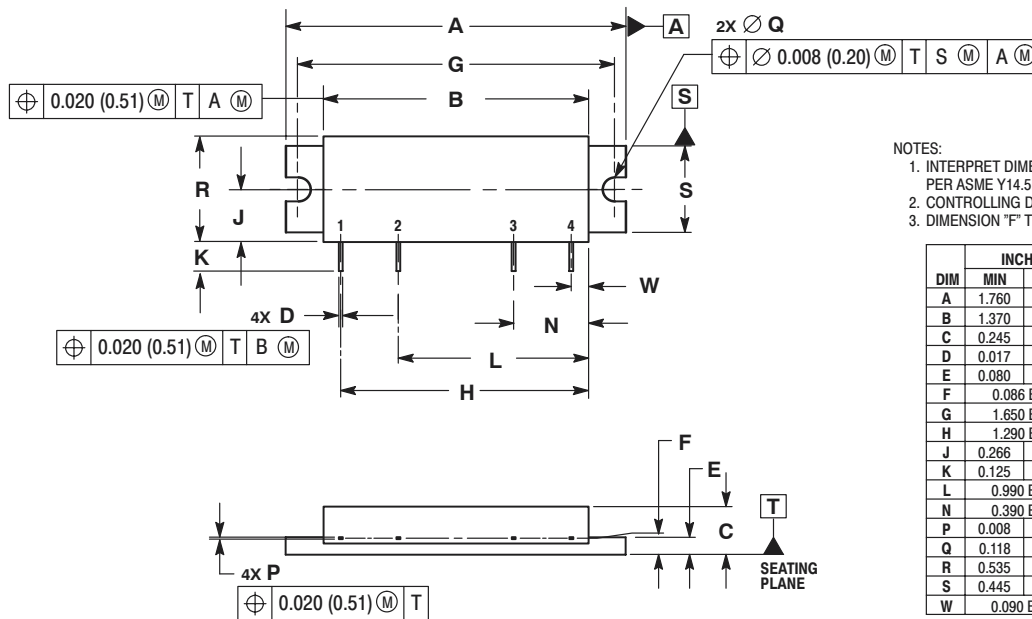
| Rating | Symbol | Value | Unit |
|------------------------------------|------------------|-------------|------|
| DC Supply Voltage | V _{DD} | 30 | Vdc |
| RF Input Power (Single Carrier CW) | P _{in} | +20 | dBm |
| Storage Temperature Range | T _{stg} | -40 to +100 | °C |
| Operating Case Temperature Range | T _C | -20 to +100 | °C |

ELECTRICAL CHARACTERISTICS (V_{DD} = 28 Vdc, V_{BIAS} ≅ 8 V Set for Supply Current of 600 mA, T_C = 25°C, 50 Ω System)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|---|--------------------|------|-------|-----|------|
| Supply Current | I _{DD} | — | 600 | — | mA |
| Power Gain (f = 1840 MHz) | G _p | 24.5 | 25.5 | — | dB |
| Gain Flatness (f = 1805–1880 MHz) | G _F | — | 0.2 | 0.5 | dB |
| Power Output @ 1 dB Comp. (f = 1840 MHz) | P _{1dB} | — | 41.5 | — | dBm |
| Input VSWR (f = 1805–1880 MHz) | VSWR _{in} | — | 1.5:1 | 2:1 | |
| Noise Figure (f = 1840 MHz) | NF | — | 8 | 10 | dB |
| Adjacent Channel Power Rejection @ 30 dBm Average Power, 1.23 MHz BW, 885 kHz Channel Spacing | ACPR | — | -58 | -51 | dBc |

Freescale Semiconductor, Inc.

PACKAGE DIMENSIONS



- NOTES:
1. INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 1994.
 2. CONTROLLING DIMENSION: INCH.
 3. DIMENSION "F" TO CENTER OF LEADS.

| DIM | INCHES | | MILLIMETERS | |
|-----|-----------|-------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 1.760 | 1.780 | 44.70 | 45.21 |
| B | 1.370 | 1.390 | 34.80 | 35.31 |
| C | 0.245 | 0.265 | 6.22 | 6.73 |
| D | 0.017 | 0.023 | 0.43 | 0.58 |
| E | 0.080 | 0.100 | 2.03 | 2.54 |
| F | 0.086 BSC | | 2.18 BSC | |
| G | 1.650 BSC | | 41.91 BSC | |
| H | 1.290 BSC | | 32.77 BSC | |
| J | 0.266 | 0.280 | 6.76 | 7.11 |
| K | 0.125 | 0.165 | 3.18 | 4.19 |
| L | 0.990 BSC | | 25.15 BSC | |
| N | 0.390 BSC | | 9.91 BSC | |
| P | 0.008 | 0.013 | 0.20 | 0.33 |
| Q | 0.118 | 0.132 | 3.00 | 3.35 |
| R | 0.535 | 0.555 | 13.59 | 14.10 |
| S | 0.445 | 0.465 | 11.30 | 11.81 |
| W | 0.090 BSC | | 2.29 BSC | |

- STYLE 3:
- PIN 1. RF INPUT
 - VBIAS
 - VDD
 - RF OUTPUT
- CASE: GROUND

CASE 301AP-02 ISSUE C

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