

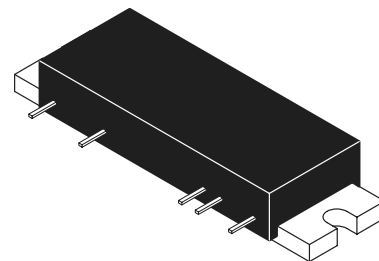
# The RF Line PCS Band RF Linear LDMOS Amplifier

Designed for ultra-linear amplifier applications in 50 Ohm systems operating in the PCS frequency band. A silicon FET Class A design provides outstanding linearity and gain. In addition, the excellent group delay and phase linearity characteristics are ideal for digital modulation systems, such as TDMA, GSM EDGE and CDMA.

- Third Order Intercept Point: 50 dBm Typ
- Power Gain: 28.6 dB Typ (@ f = 1842 MHz)
- Excellent Phase Linearity and Group Delay Characteristics
- Ideal for Feedforward Base Station Application

**MHL18926**

**1805–1880 MHz, 10 W, 28.6 dB  
RF LINEAR LDMOS AMPLIFIER**



CASE 301AY-01, STYLE 1

## ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub> = 25°C unless otherwise noted)

| Rating                           | Symbol           | Value       | Unit |
|----------------------------------|------------------|-------------|------|
| DC Supply Voltage                | V <sub>DD</sub>  | 30          | Vdc  |
| RF Input Power                   | P <sub>in</sub>  | +18         | dBm  |
| Storage Temperature Range        | T <sub>stg</sub> | –40 to +100 | °C   |
| Operating Case Temperature Range | T <sub>C</sub>   | –20 to +100 | °C   |

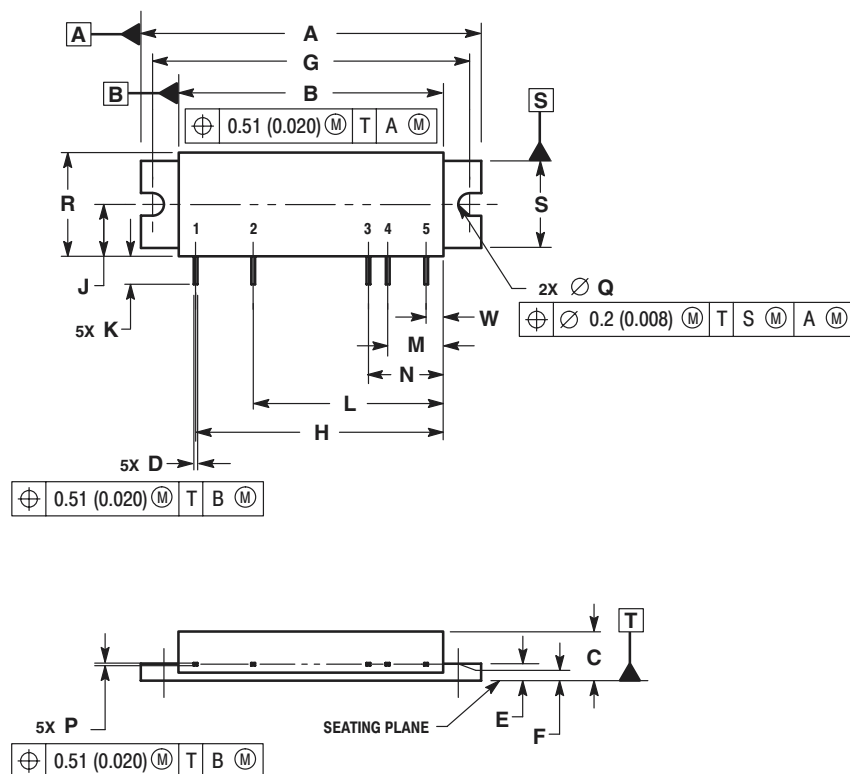
## ELECTRICAL CHARACTERISTICS (T<sub>C</sub> = +25°C; V<sub>DD</sub> = 26 Vdc; 50 Ω System)

| Characteristic                                       | Symbol             | Min  | Typ   | Max   | Unit |
|--|--------------------|------|-------|-------|------|
| Supply Current                                       | I <sub>DD</sub>    | —    | 1.1   | 1.15  | A    |
| Power Gain (f = 1842 MHz)                            | G <sub>p</sub>     | 27.6 | 28.6  | 29.6  | dB   |
| Gain Flatness (f = 1805–1880 MHz)                    | G <sub>F</sub>     | —    | 0.3   | 0.5   | dB   |
| Power Output @ 1 dB Compression (f = 1842 MHz)       | P1 dB              | 39   | 40    | —     | dBm  |
| Input VSWR (f = 1805–1880 MHz)                       | VSWR <sub>in</sub> | —    | 1.2:1 | 1.5:1 |      |
| Third Order Intercept (f1 = 1839 MHz, f2 = 1844 MHz) | ITO                | 49.5 | 50    | —     | dBm  |
| Noise Figure (f = 1880 MHz)                          | NF                 | —    | 4.2   | 5     | dB   |

NOTE – **CAUTION** – MOS devices are susceptible to damage from electrostatic charge. Reasonable precautions in handling and packaging MOS devices should be observed.

# Freescale Semiconductor, Inc.

## PACKAGE DIMENSIONS



- NOTES:
1. CONTROLLING DIMENSION: MILLIMETER.
  2. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M, 1982.
  3. DIMENSION F TO CENTER LINE OF LEADS.

|     | MILLIMETERS |       | INCHES    |       |
|-----|-------------|-------|-----------|-------|
| DIM | MIN         | MAX   | MIN       | MAX   |
| A   | 44.7        | 45.21 | 1.760     | 1.780 |
| B   | 34.8        | 35.31 | 1.370     | 1.390 |
| C   | 6.22        | 6.73  | 0.245     | 0.265 |
| D   | 0.43        | 0.58  | 0.017     | 0.023 |
| E   | 2.03        | 2.54  | 0.080     | 0.100 |
| F   | 2.18 BSC    |       | 0.086 BSC |       |
| G   | 41.91 BSC   |       | 1.650 BSC |       |
| H   | 32.77 BSC   |       | 1.290 BSC |       |
| J   | 6.76        | 7.11  | 0.266     | 0.280 |
| K   | 3.18        | 4.19  | 0.125     | 0.165 |
| L   | 25.15 BSC   |       | 0.990 BSC |       |
| M   | 7.37 BSC    |       | 0.290 BSC |       |
| N   | 9.91 BSC    |       | 0.390 BSC |       |
| P   | 0.2         | 0.33  | 0.008     | 0.013 |
| Q   | 3           | 3.35  | 0.118     | 0.132 |
| R   | 13.59       | 14.1  | 0.535     | 0.555 |
| S   | 11.3        | 11.81 | 0.445     | 0.465 |
| W   | 2.29 BSC    |       | 0.090 BSC |       |

STYLE 1:  
 PIN 1: RF INPUT  
 2. VDD1  
 3. VDD2  
 4. VDD3  
 5. RF OUTPUT  
 CASE: GROUND

### CASE 301AY-01 ISSUE O

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**JAPAN:** Motorola Japan Ltd.; SPS, Technical Information Center,  
 3-20-1, Minami-Azabu, Minato-ku, Tokyo 106-8573, Japan  
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 2 Dai King Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong  
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