

# 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 and CDMA.

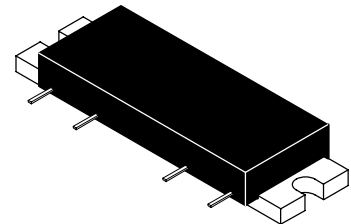
- Third Order Intercept: 46 dBm Typ
- Power Gain: 30 dB Typ (@ f = 1960 MHz)
- Input VSWR ≤ 1.5:1

### Features

- Excellent Phase Linearity and Group Delay Characteristics
- Ideal for Feedforward Base Station Applications
- N Suffix Indicates Lead-Free Terminations

**MHL19338N**

**1900-2000 MHz  
 4.0 W, 30 dB  
 RF LINEAR LDMOS AMPLIFIER**



**CASE 301AP-02, STYLE 1**

**Table 1. Absolute Maximum Ratings** ( $T_C = 25^\circ\text{C}$  unless otherwise noted)

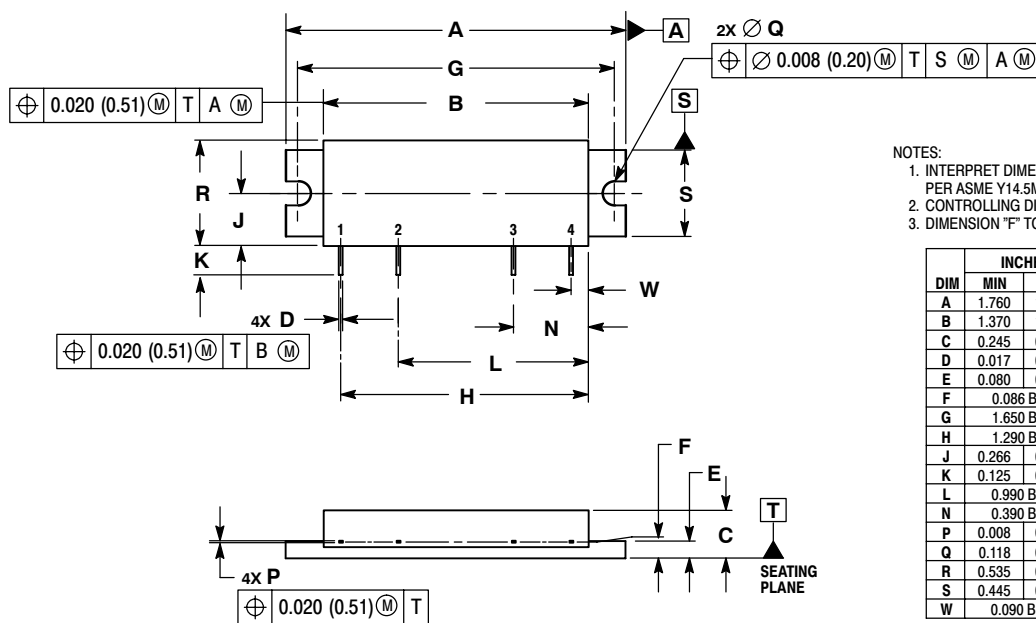
Rating	Symbol	Value	Unit
DC Supply Voltage	$V_{DD}$	30	Vdc
RF Input Power	$P_{in}$	+10	dBm
Storage Temperature Range	$T_{stg}$	- 40 to +100	$^\circ\text{C}$
Operating Case Temperature Range	$T_C$	- 20 to +100	$^\circ\text{C}$

**Table 2. Electrical Characteristics** ( $V_{DD} = 28 \text{ Vdc}$ ,  $T_C = 25^\circ\text{C}$ ; 50  $\Omega$  System)

Characteristic	Symbol	Min	Typ	Max	Unit
Supply Current	$I_{DD}$	—	500	525	mA
Power Gain (f = 1960 MHz)	$G_p$	29	30	32	dB
Gain Flatness (f = 1900 - 2000 MHz)	$G_F$	—	0.1	0.4	dB
Power Output @ 1 dB Compression (f = 1950 MHz)	$P_{1dB}$	35	36	—	dBm
Third Order Intercept (f1 = 1950 MHz, f2 = 1955 MHz)	ITO	45	46	—	dBm
Noise Figure (f = 2000 MHz)	NF	—	4.2	4.5	dB

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

## 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 1:  
 PIN 1: RF INPUT  
 2: VDD1  
 3: VDD2  
 4: RF OUTPUT  
 CASE: GROUND

**CASE 301AP-02  
 ISSUE E**

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