Replaced by MHL21336N. There are no form, fit or function changes with this part replacement. N suffix added to part number to indicate transition to lead-free terminations.

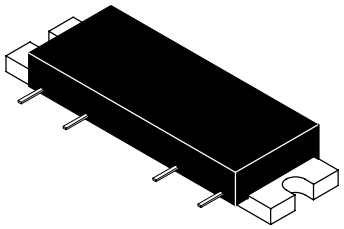
3G Band
RF Linear LDMOS Amplifier

Designed for ultra-linear amplifier applications in 50 ohm systems operating in the 3G 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 CDMA modulation systems.

- Third Order Intercept: 45 dBm Typ
- Power Gain: 31 dB Typ (@ f = 2140 MHz)
- Excellent Phase Linearity and Group Delay Characteristics
- Ideal for Feedforward Base Station Applications

MHL21336

2110-2170 MHz
3.0 W, 31 dB
RF LINEAR LDMOS AMPLIFIER



CASE 301AP-02, STYLE 1

ARCHIVE INFORMATION

Table 1. Absolute Maximum Ratings (T_C = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
DC Supply Voltage	V_{DD}	30	Vdc
RF Input Power	P_{in}	+5	dBm
Storage Temperature Range	T_{stg}	- 40 to +100	°C
Operating Case Temperature Range	T_C	- 20 to +100	°C

Table 2. Electrical Characteristics (V_{DD} = 26 Vdc, T_C = 25°C; 50 Ω System)

Characteristic		Symbol	Min	Typ	Max	Unit
Supply Current		I_{DD}	—	500	525	mA
Power Gain	(f = 2140 MHz)	G_p	30	31	32	dB
Gain Flatness	(f = 2110 - 2170 MHz)	G_F	—	0.15	0.4	dB
Power Output @ 1 dB Comp.	(f = 2140 MHz)	P_{out} 1 dB	34	35	—	dBm
Input VSWR	(f = 2110 - 2170 MHz)	$VSWR_{in}$	—	1.2:1	1.5:1	
Third Order Intercept (f1 = 2137 MHz, f2 = 2142 MHz)		ITO	44	45	—	dBm
Noise Figure	(f = 2170 MHz)	NF	—	4.5	5	dB

TYPICAL CHARACTERISTICS

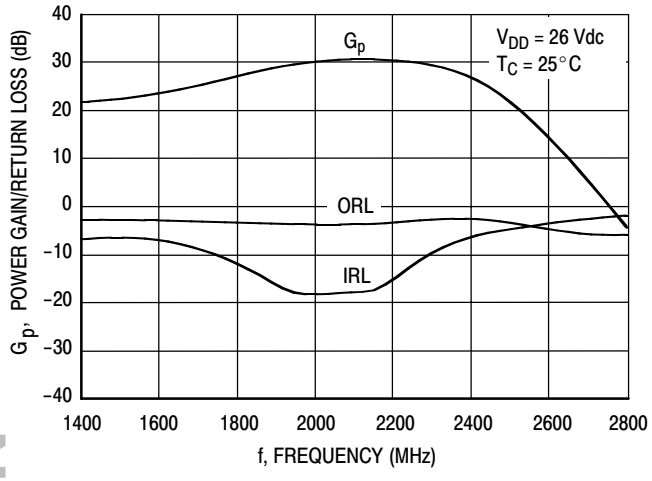


Figure 1. Power Gain, Input Return Loss, Output Return Loss versus Frequency

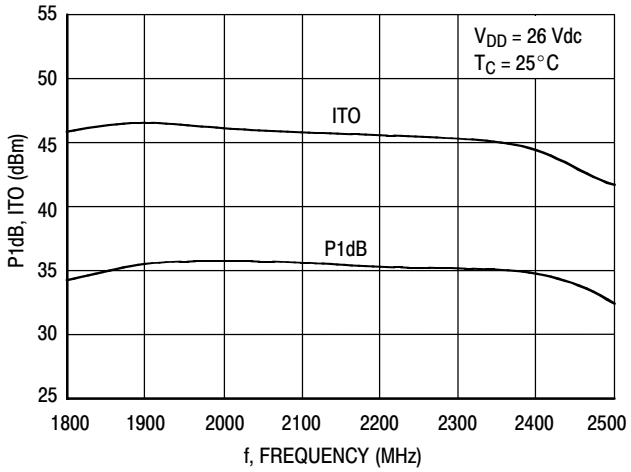


Figure 2. P1dB, ITO versus Frequency

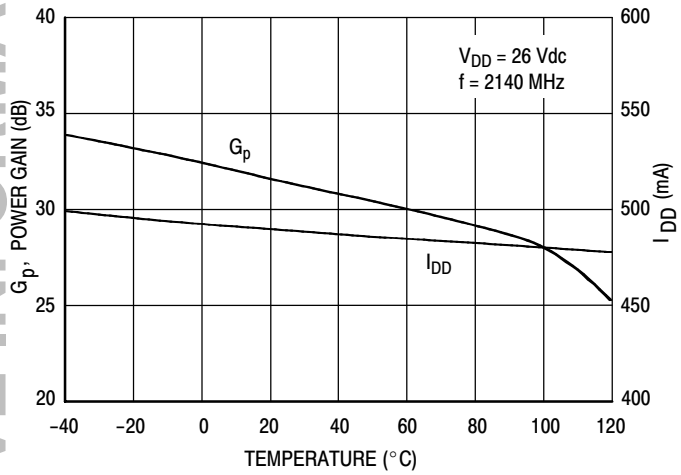


Figure 3. Power Gain, I_{DD} versus Temperature

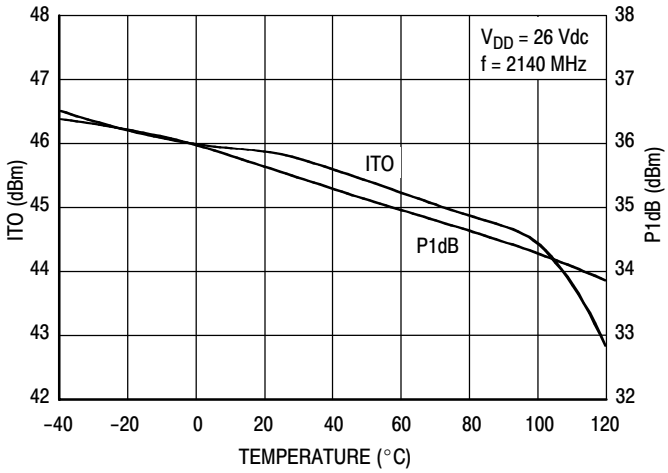


Figure 4. ITO, P1dB versus Temperature

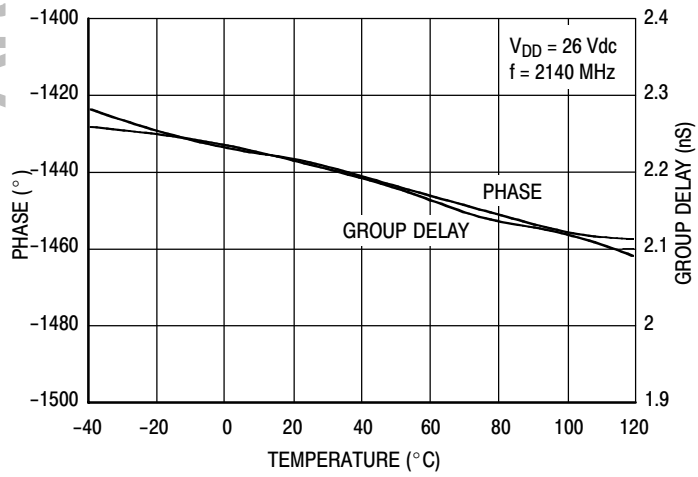


Figure 5. Phase(1), Group Delay(1) versus Temperature

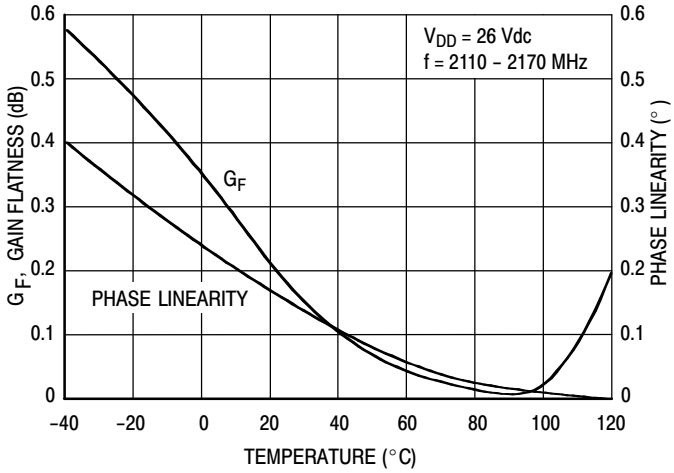


Figure 6. Gain Flatness, Phase Linearity versus Temperature

1. In Production Test Fixture

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TYPICAL CHARACTERISTICS

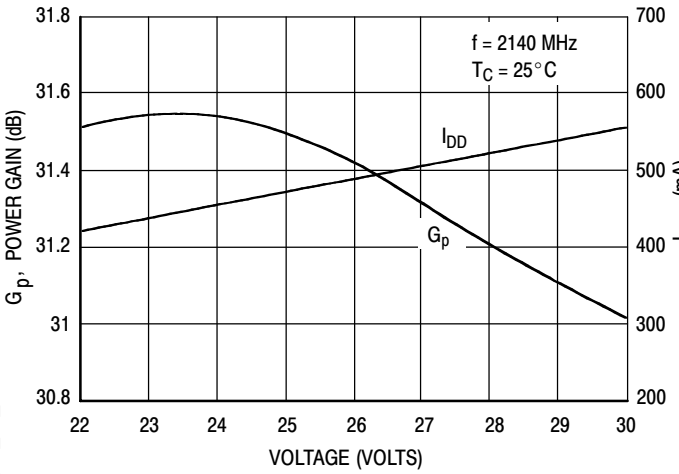

Figure 7. Power Gain, I_{DD} versus Voltage

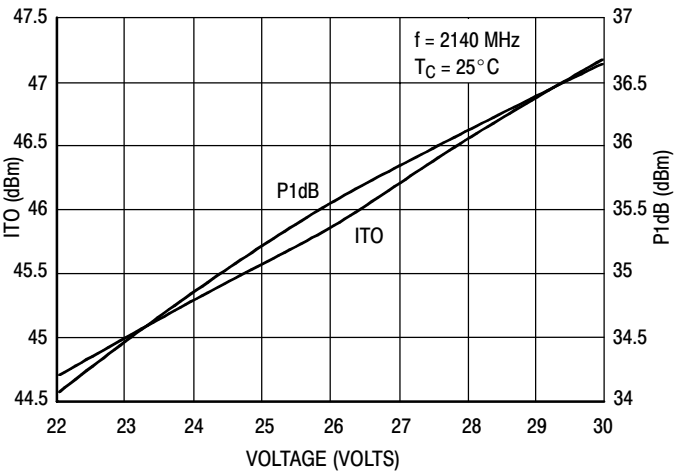

Figure 8. ITO, P1dB versus Voltage

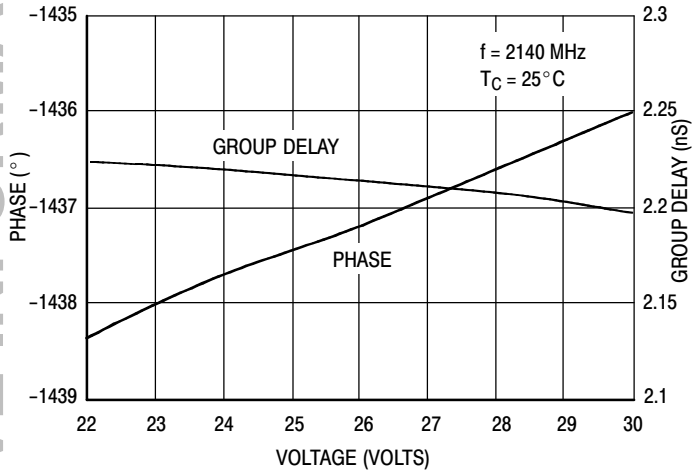

Figure 9. Phase(1), Group Delay(1) versus Voltage

1. In Production Test Fixture

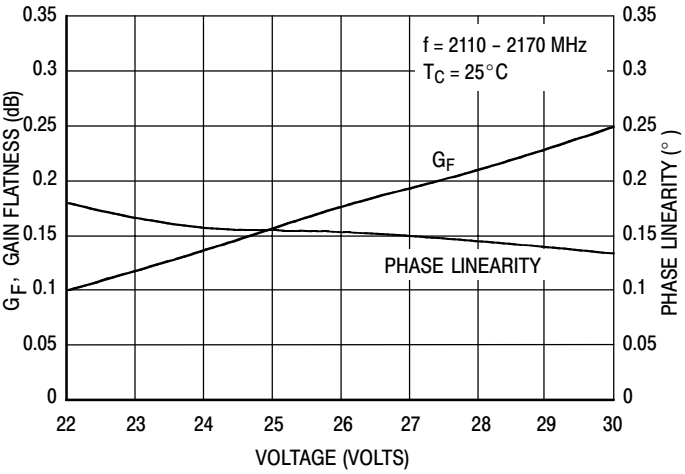

Figure 10. Phase Linearity, Gain Flatness versus Voltage

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NOTES

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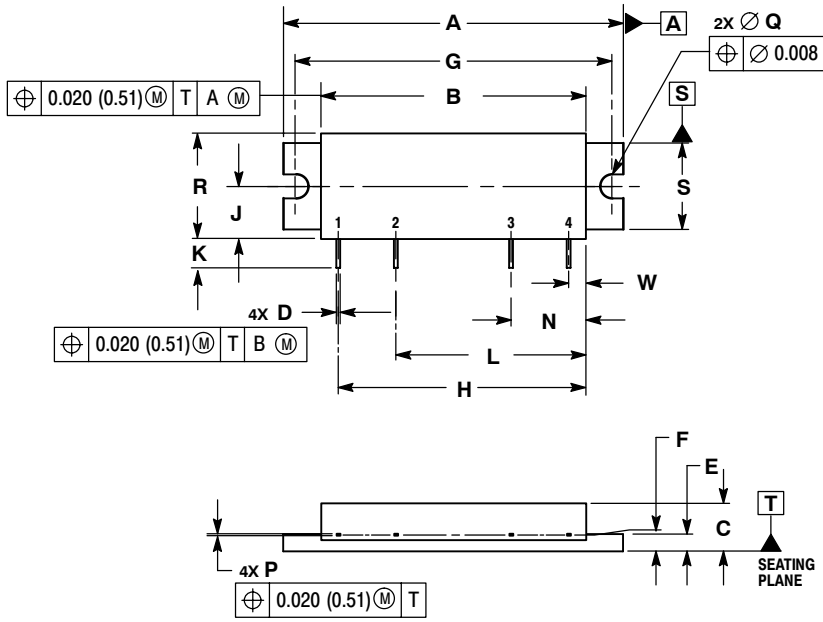
PACKAGE DIMENSIONS



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

	INCHES		MILLIMETERS	
DIM	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 C

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