



# 1214-32L

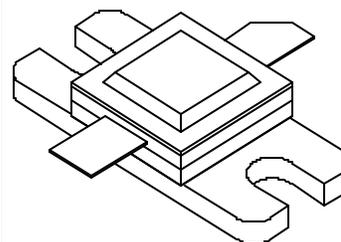
32 Watts, 36 Volts  
Pulsed Radar at 1.2-1.4 GHz

## GENERAL DESCRIPTION

The 1214-32L is an internally matched, COMMON BASE transistor capable of providing 32 Watts of pulsed RF output power at 5 milliseconds pulse width, 20% duty factor across the band 1200 to 1400 MHz. This hermetically solder-sealed transistor is specifically designed for LBand radar applications. It utilizes gold metallization and diffused emitter ballasting to provide high reliability and supreme ruggedness.

## CASE OUTLINE

55AW-1



## ABSOLUTE MAXIMUM RATINGS

### Maximum Power Dissipation

Device Dissipation @ 25°C<sup>1</sup> 125 W

### Maximum Voltage and Current

Collector to Base Voltage (BV<sub>ces</sub>) 50 V

Emitter to Base Voltage (BV<sub>ebo</sub>) 3.5 V

Collector Current (I<sub>c</sub>) 5 A

### Maximum Temperatures

Storage Temperature -65 to +200 °C

Operating Junction Temperature +200 °C

## ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P <sub>out</sub> <sup>1</sup>	Power Output	F = 1200-1400 MHz	32		41	W
P <sub>g</sub>	Power Gain	Pin = 5.3 W	7.8		8.9	dB
η <sub>c</sub>	Collector Efficiency	Pulse Width = 5 mS	42	45		%
R <sub>L</sub>	Return Loss	Duty Factor = 20%	-9			dB
Pd	Pulse Droop				0.5	dB
VSWR <sup>1</sup>	Load Mismatch Tolerance <sup>1</sup>	F=1200 MHz, Pin=5.3 W			3.0:1	

## FUNCTIONAL CHARACTERISTICS @ 25°C

BV <sub>ebo</sub>	Emitter to Base Breakdown	I <sub>e</sub> = 15 mA	3.5			V
BV <sub>ces</sub>	Collector to Emitter Breakdown	I <sub>c</sub> = 100 mA	50			V
h <sub>FE</sub>	DC – Current Gain	V <sub>ce</sub> = 5V, I <sub>c</sub> = 1A	20			
θ <sub>jc</sub> <sup>1</sup>	Thermal Resistance				1.4	°C/W

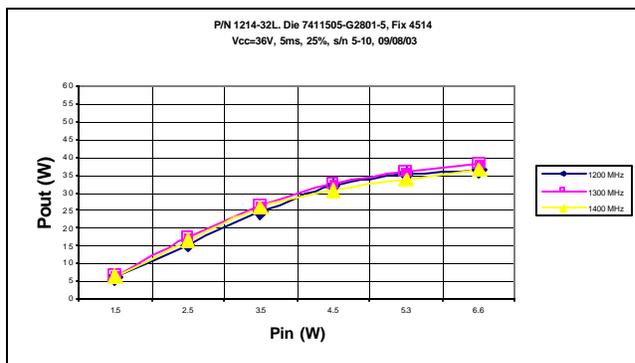
NOTES: 1. Pulse condition of 5 mS, 20%

Rel 5: March 2005

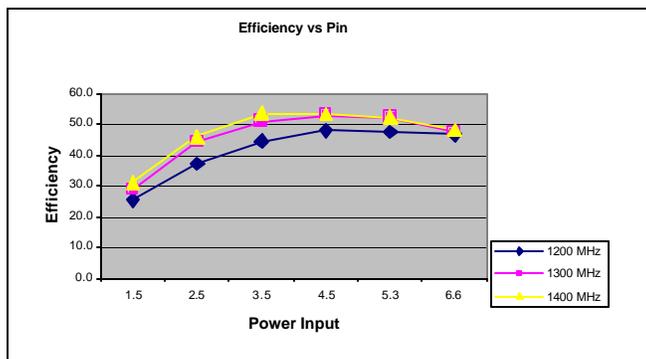
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## Performance Curves

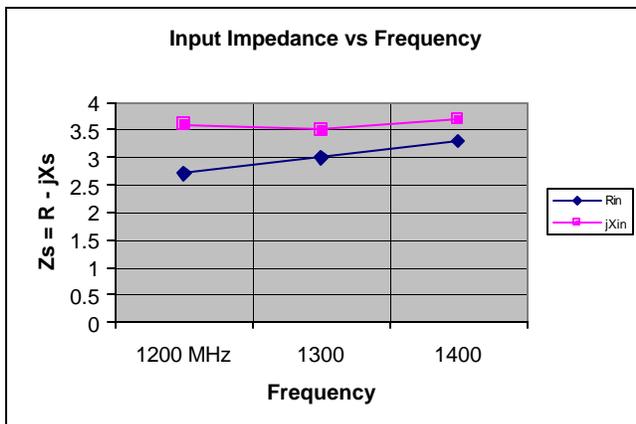
### Power Output vs Power Input



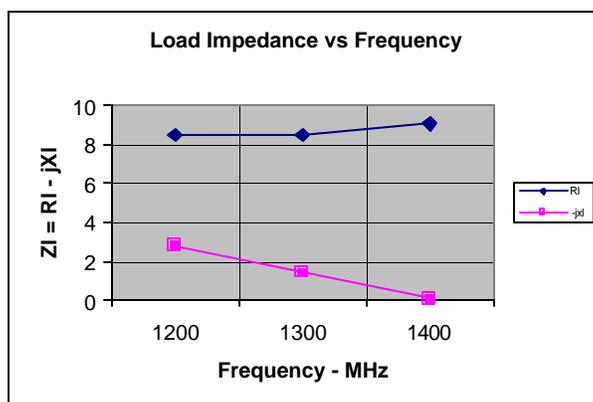
### Efficiency vs Power Input



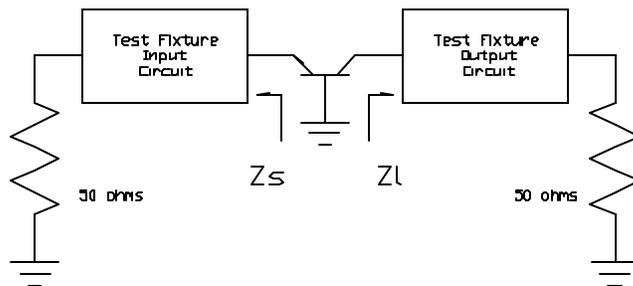
### Input Impedance



### Load Impedance



Impedance		
Freq	Zs	Zl
1200	2.7-j3.6	8.5-j2.8
1300	3-j3.5	8.5-j1.44
1400	3.3-j3.7	9.07-j0.08





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