



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.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation

Device Dissipation @ 25°C¹ 125 W

Maximum Voltage and Current

Collector to Base Voltage (BV_{ces}) 50 V

Emitter to Base Voltage (BV_{ebo}) 3.5 V

Collector Current (I_c) 5 A

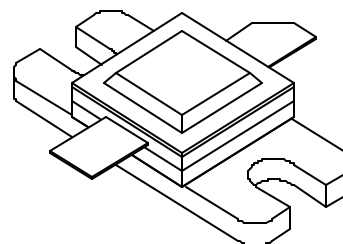
Maximum Temperatures

Storage Temperature -65 to +200 °C

Operating Junction Temperature +200 °C

CASE OUTLINE

55AW-1



ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{out} ¹	Power Output	F = 1200-1400 MHz	32		41	W
P _g	Power Gain	Pin = 5.3 W	7.8		8.9	dB
η _c	Collector Efficiency	Pulse Width = 5 mS	42	45		%
R _L	Return Loss	Duty Factor = 20%	-9			dB
Pd	Pulse Droop				0.5	dB
VSWR ¹	Load Mismatch Tolerance ¹	F=1200 MHz, Pin=5.3 W			3.0:1	

FUNCTIONAL CHARACTERISTICS @ 25°C

BV _{ebo}	Emitter to Base Breakdown	I _e = 15 mA	3.5			V
BV _{ces}	Collector to Emitter Breakdown	I _c = 100 mA	50			V
h _{FE}	DC – Current Gain	V _{ce} = 5V, I _c = 1A	20			
θ _{jc} ¹	Thermal Resistance				1.4	°C/W

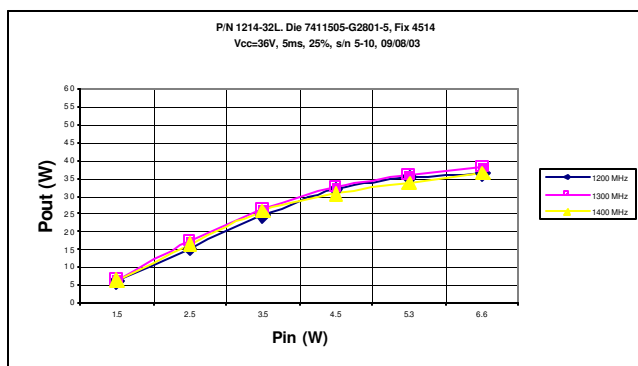
NOTES: 1. Pulse condition of 5 mS, 20%

Rel 5: March 2005

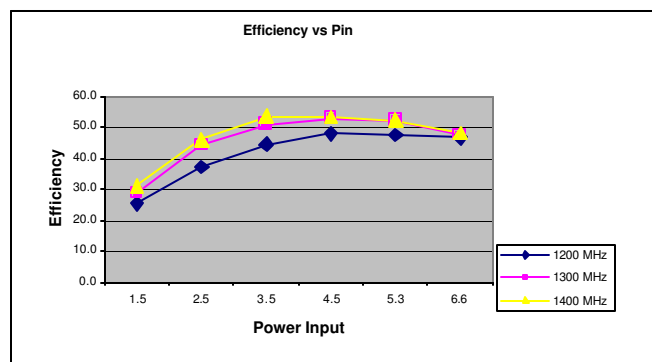
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Performance Curves

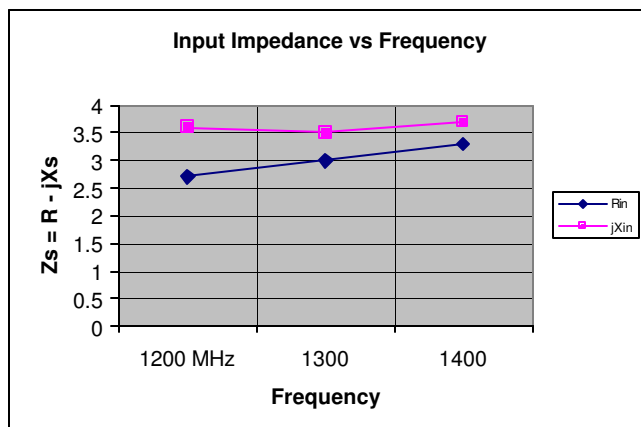
Power Output vs Power Input



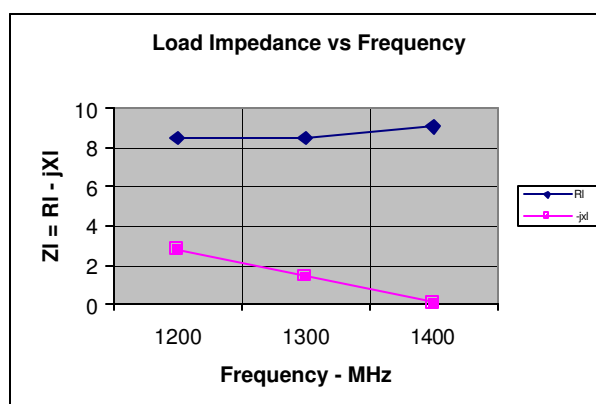
Efficiency vs Power Input



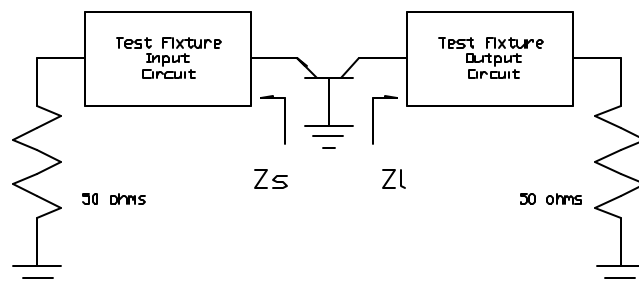
Input Impedance

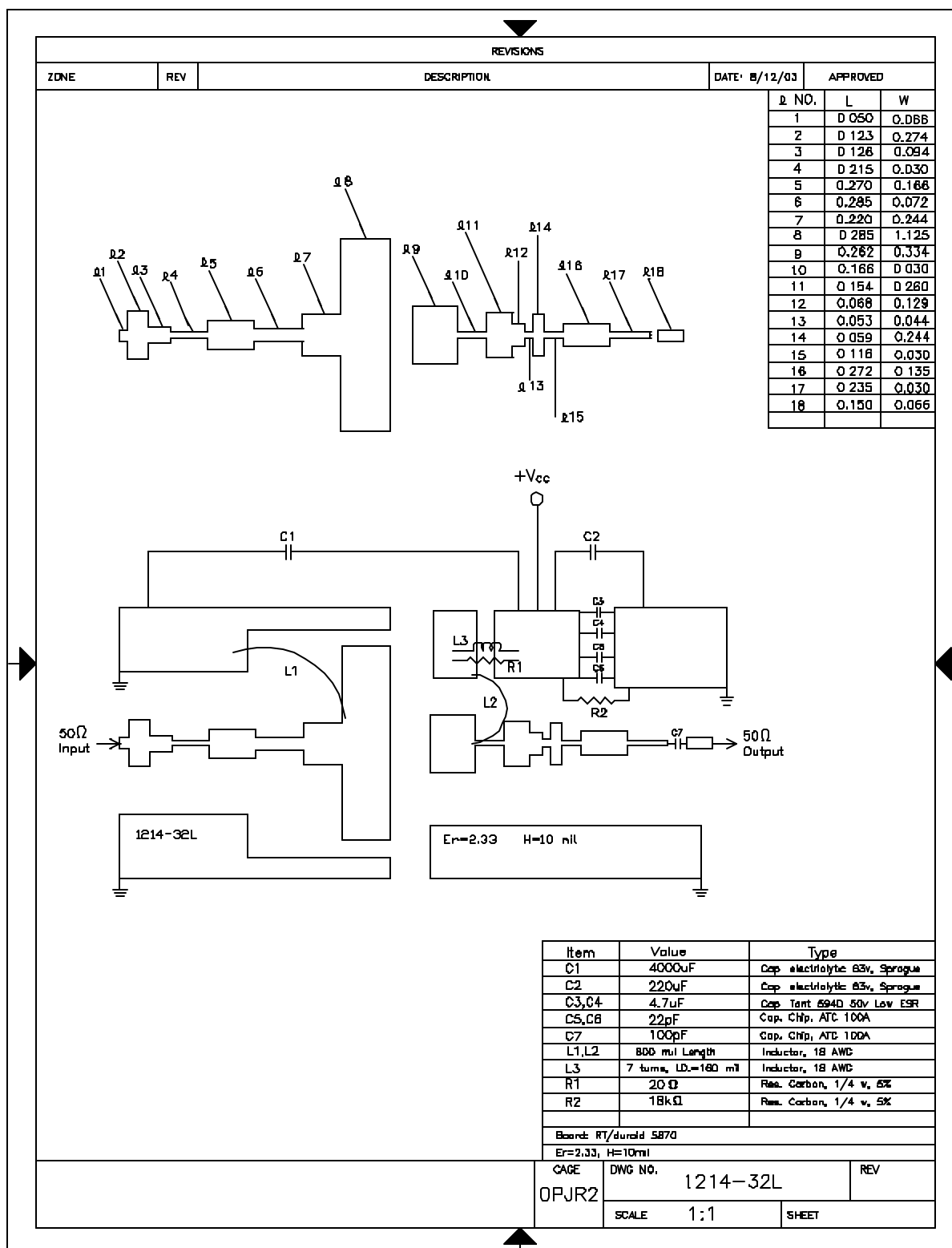


Load Impedance



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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