



1214-32L

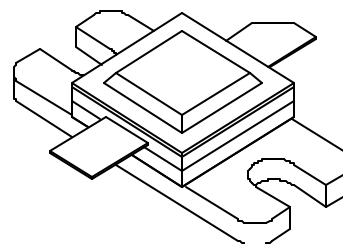
32 Watts, 36 Volts
Pulsed Radar at 1.2-1.4 GHz

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°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

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

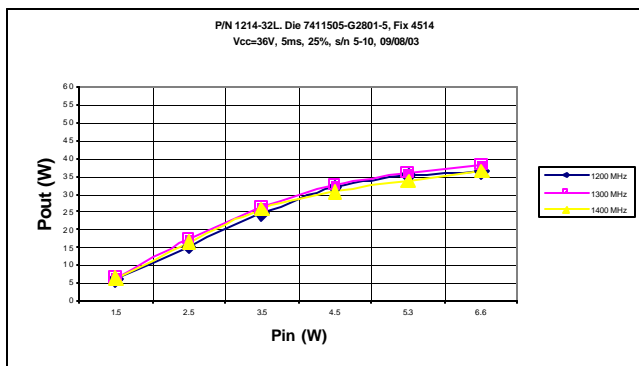
NOTES: 1. Pulse condition of 5 mS, 20%

Rel 5: March 2005

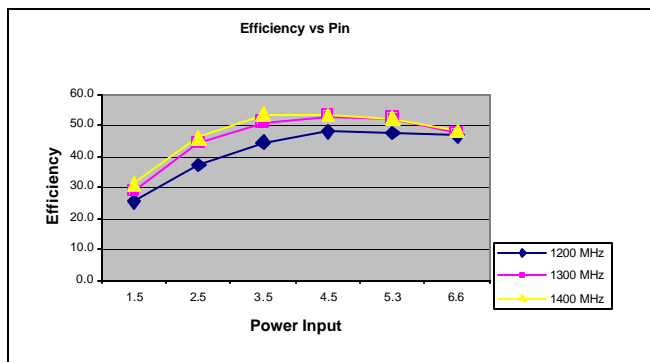
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Performance Curves

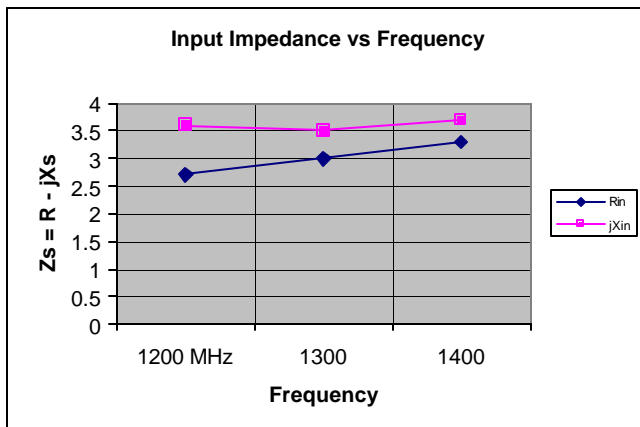
Power Output vs Power Input



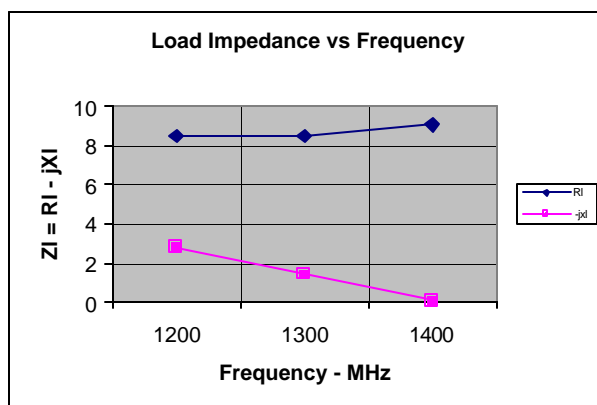
Efficiency vs Power Input



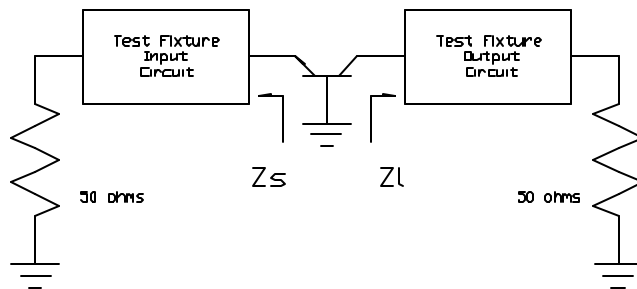
Input Impedance



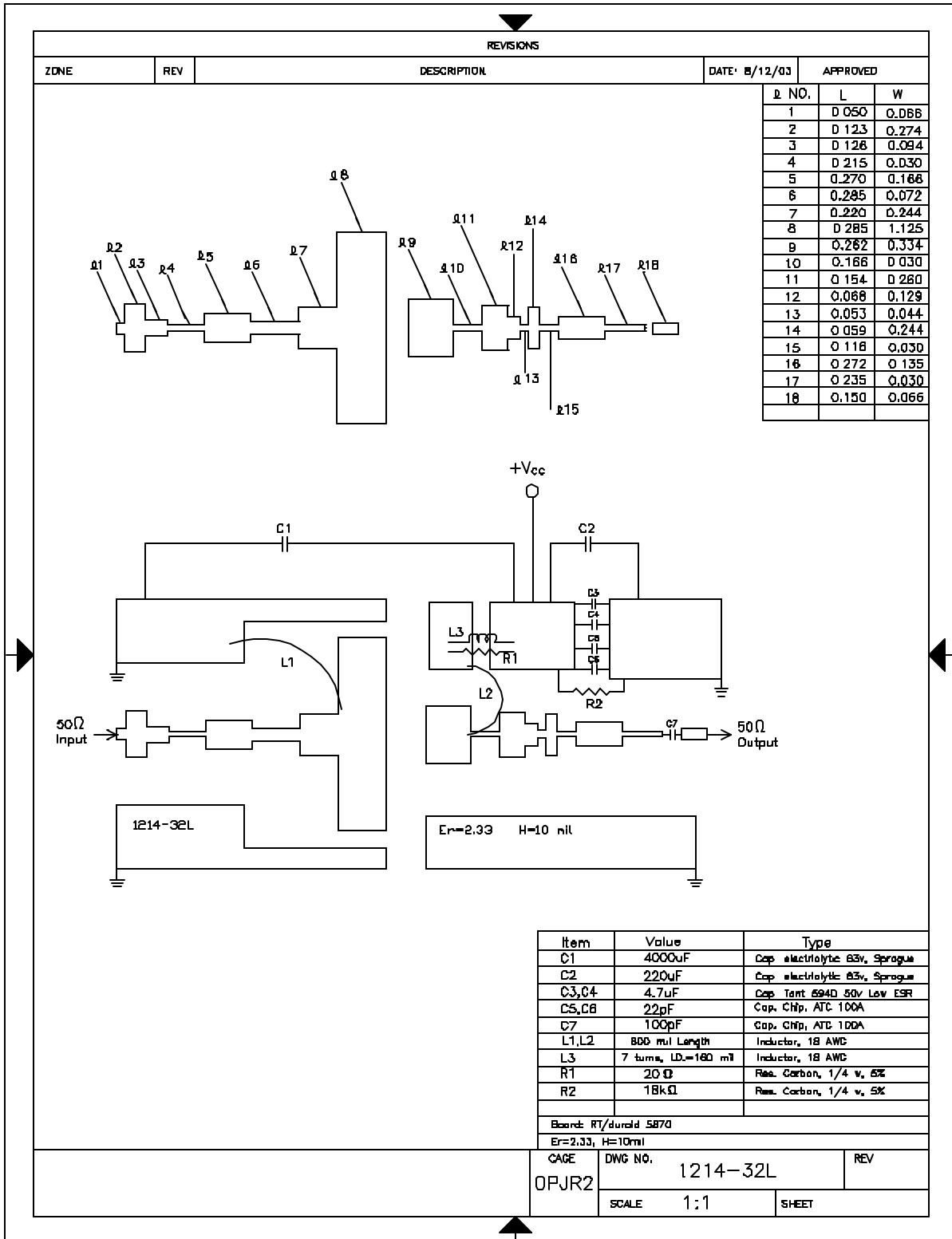
Load Impedance



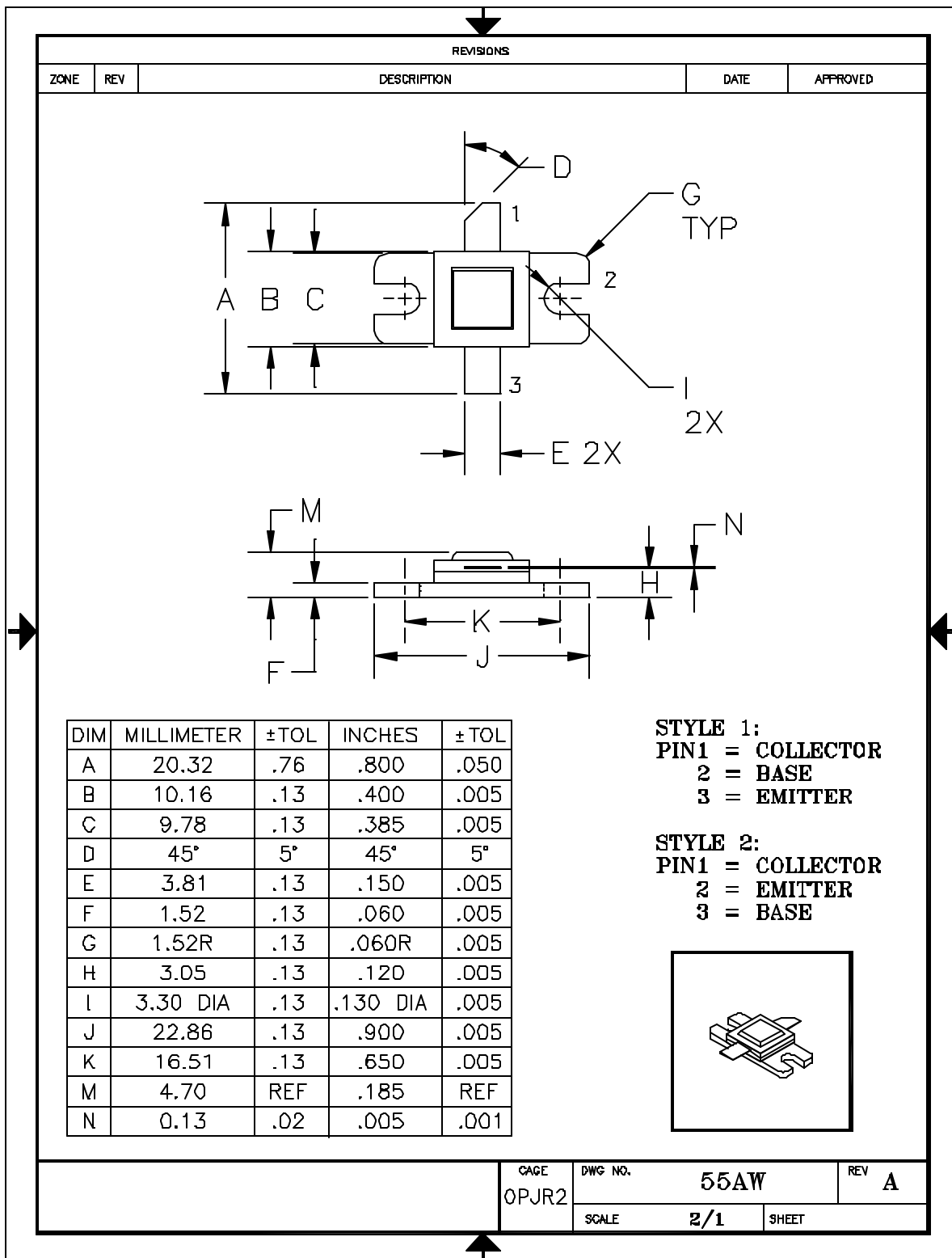
Impedance		
Freq	Zs	Zl
1200	2.7-j3.6	8.5-j2.8
1300	3-j3.5	8.5-j1.44
1400	3.3-j3.7	9.07-j0.08



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