



1214-150L

150 Watts, 36 Volts, 5 ms, 20%
Radar 1200 to 1400 MHz

GENERAL DESCRIPTION

The 1214-150L is an internally matched, COMMON BASE transistor capable of providing 150 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 L-Band 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 320 W

Maximum Voltage and Current

Collector to Base Voltage (BV_{ces}) 70 V

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

Collector Current (I_c) 15 A

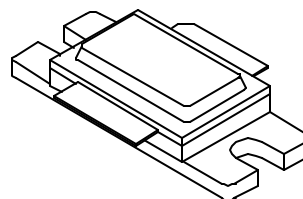
Maximum Temperatures

Storage Temperature -65 to +200 °C

Operating Junction Temperature +200 °C

CASE OUTLINE

55ST-1



ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{out}	Power Output	F = 1200-1400 MHz V _{cc} = 36 Volts Pin = 27 W Pulse Width = 5 mS Duty Factor = 20%	140	150	200	W
P _g	Power Gain		7.15		8.7	dB
η _c	Collector Efficiency		45			%
R _L	Return Loss		-9			dB
P _d	Pulse Droop				0.5	dB
VSWR ¹	Load Mismatch Tolerance	F=1200 MHz, Pin = 27W			3.0:1	

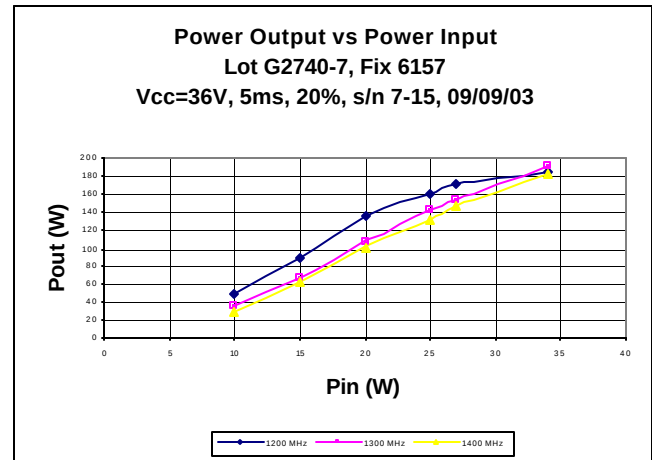
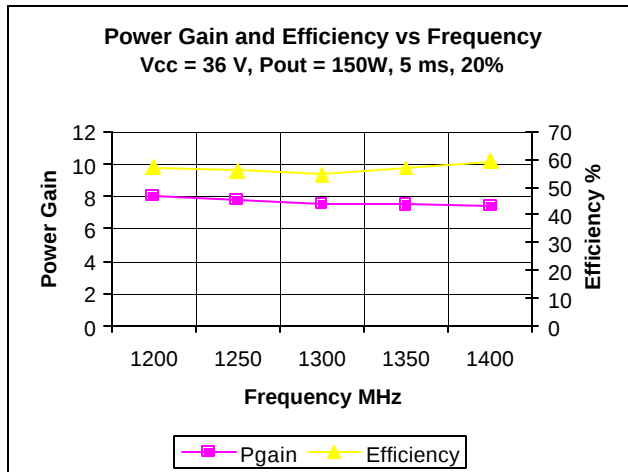
FUNCTIONAL CHARACTERISTICS @ 25°C

BV _{ebo}	Emitter to Base Breakdown	I _e = 50 mA	3.0			V
BV _{ces}	Collector to Emitter Breakdown	I _c = 100 mA	65			V
h _{FE}	DC – Current Gain	V _{ce} = 5V, I _c = 1A	20	55		
θ _{jc} ¹	Thermal Resistance				0.55	°C/W

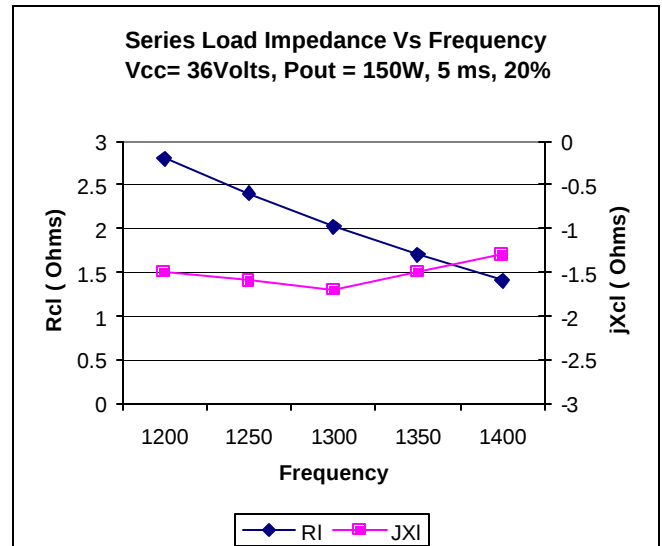
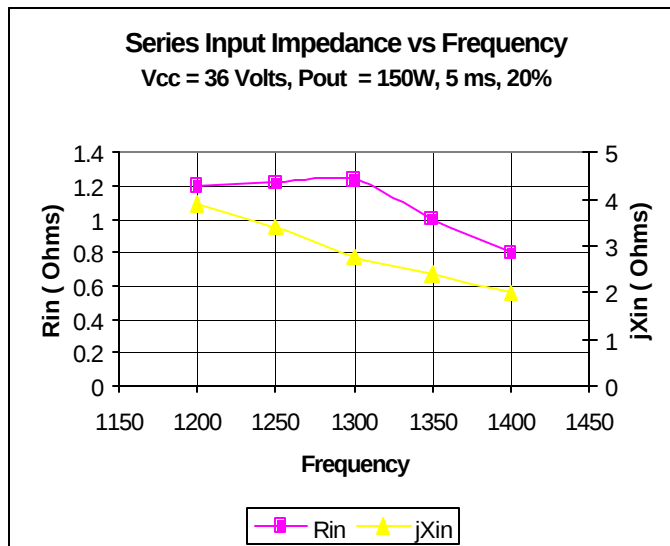
NOTES: 1. Pulse condition of 5 mS, 20%

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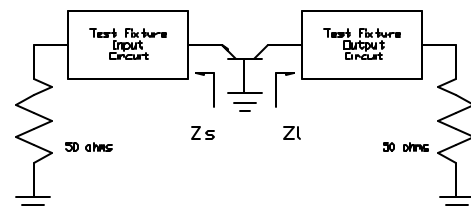
Performance Curves

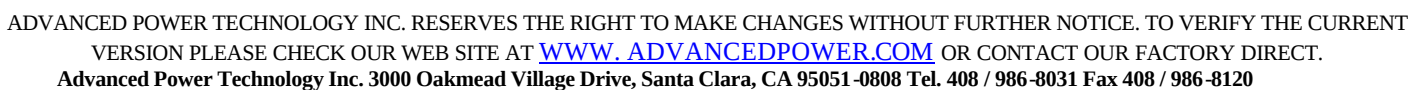


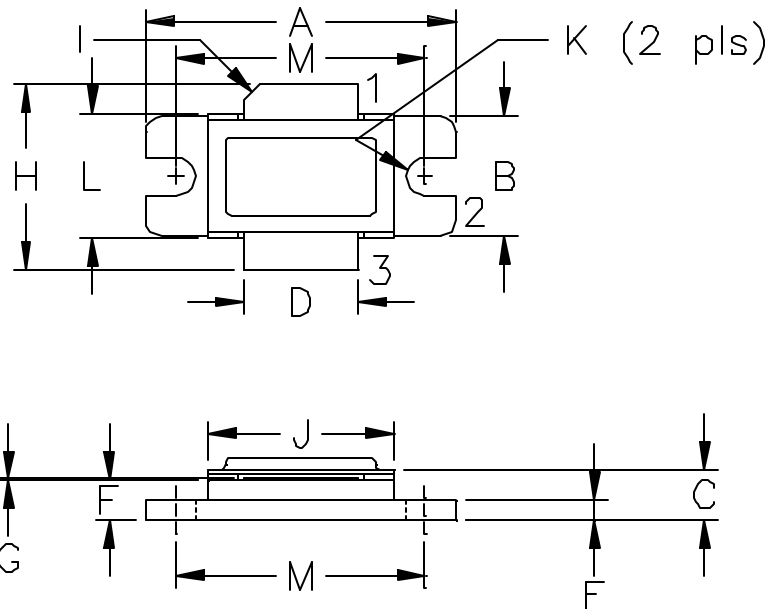
Typical Impedances



Impedance		
Freq	Zs	Zl
1200	3.9-j1.2	2.8-j1.5
1300	2.77-j1.24	2.02-j1.7
1400	2.0-j0.8	2.02-j1.7







DIM	MILLIMETER	±TOL	INCHES	±TOL
A	25.40	.25	1.000	.010
B	9.78	.25	.385	.010
C	4.00	.19	.142	.007
D	9.40	.13	.370	.005
E	1.53	.13	.060	.005
F	3.18	.13	.125	.005
G	0.08	+0.0/-0.0	.003	+0.003/-0.000
H	19.05	0.51	.750	.020
I	45°	5°	45°	5°
J	15.24	.25	.600	.010
K	3.05 DIA	.13	.120 DIA	.005
L	10.15	.13	.400	.005
M	20.32	.25	.800	.010

STYLE 1:

PIN 1 = COLLECTOR

2 = BASE

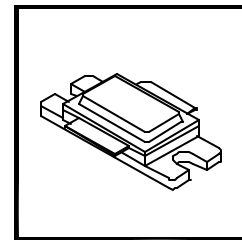
3 = EMITTER

STYLE 2:

PIN 1 = COLLECTOR

2 = EMITTER

3 = BASE



GHz TECHNOLOGY
RF - MICROWAVE SILICON POWER TRANSISTORS

DWG NO.

55ST