



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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1214 - 370M

370 Watts - 50 Volts, 330 μs, 10%
Radar 1200 - 1400 MHz

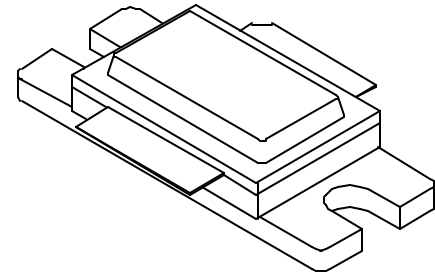
GENERAL DESCRIPTION

The 1214-370M is an internally matched, COMMON BASE transistor capable of providing 370 Watts of pulsed RF output power at 330 microseconds pulse width, ten percent 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 @ 25°C ¹	600 Watts
Maximum Voltage and Current	
BVces Collector to Emitter Voltage	75 Volts
BVebo Emitter to Base Voltage	3.0 Volts
Ic Collector Current	25 Amps
Maximum Temperatures	
Storage Temperature	- 65 to + 200°C
Operating Junction Temperature	+ 200°C

CASE OUTLINE 55ST, STYLE 1



ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out (Note 2) Pulsed	F = 1200-1400 MHz V _{cc} = 50 Volts,	370		460	Watts
P_g	Power Gain	Pulse Width = 330 μs	8.7	9.0		dB
η_c	Collector Efficiency	Duty = 10 %	50			%
P_d	Pulse Amplitude Droop	As above			0.5	dB
VSWR¹	Load Mismatch Tolerance	F = 1400MHz, P _o =370W			2:1	

** Design Target

B_{vces}	Collector to Emitter Breakdown	I _c = 40 mA	75			Volts
I_{ces}	Collector to Emitter Leakage	V _{ce} = 50 Volts			10	mA
I_{ebo}	Emitter to Base Leakage Current	V _{eb} = 3.0 Volts			5	mA
H_{fe}	DC Current Gain	V _{ce} = 5 V, I _c = 5 A	10	45		
θ_{jc}¹	Thermal Resistance	Rated Pulse Condition			0.29	°C/W

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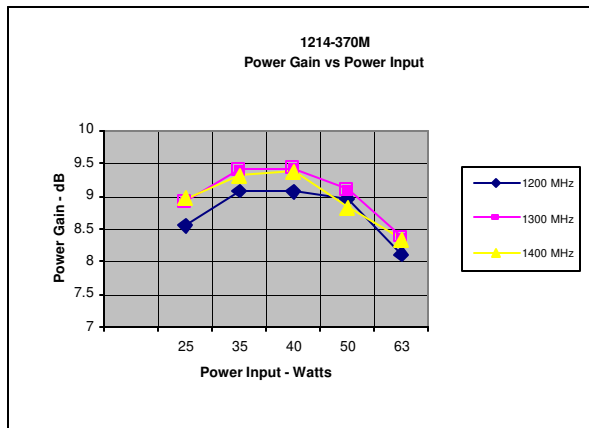
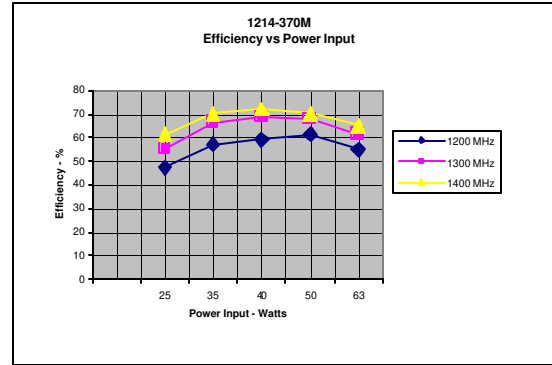
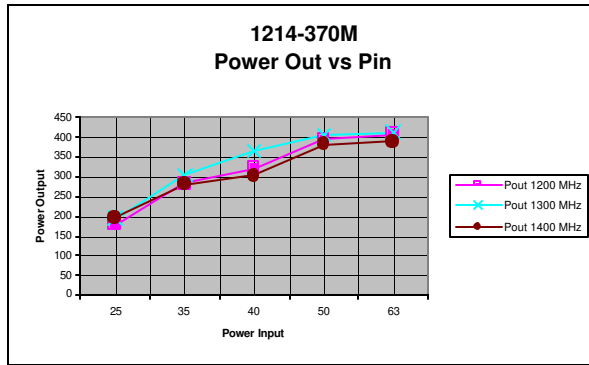
Note 1: Pulse width = 330 us, duty = 10%

Note 2: Power Input = 50 Watts Peak Pulsed

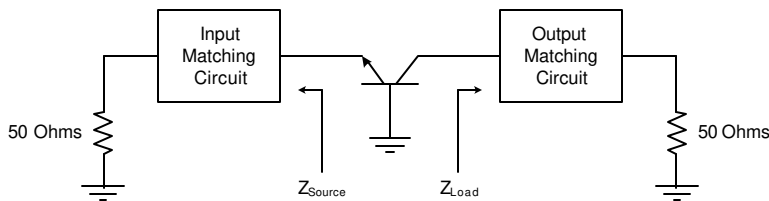


1214-370M

Performance Curves



Impedance Information



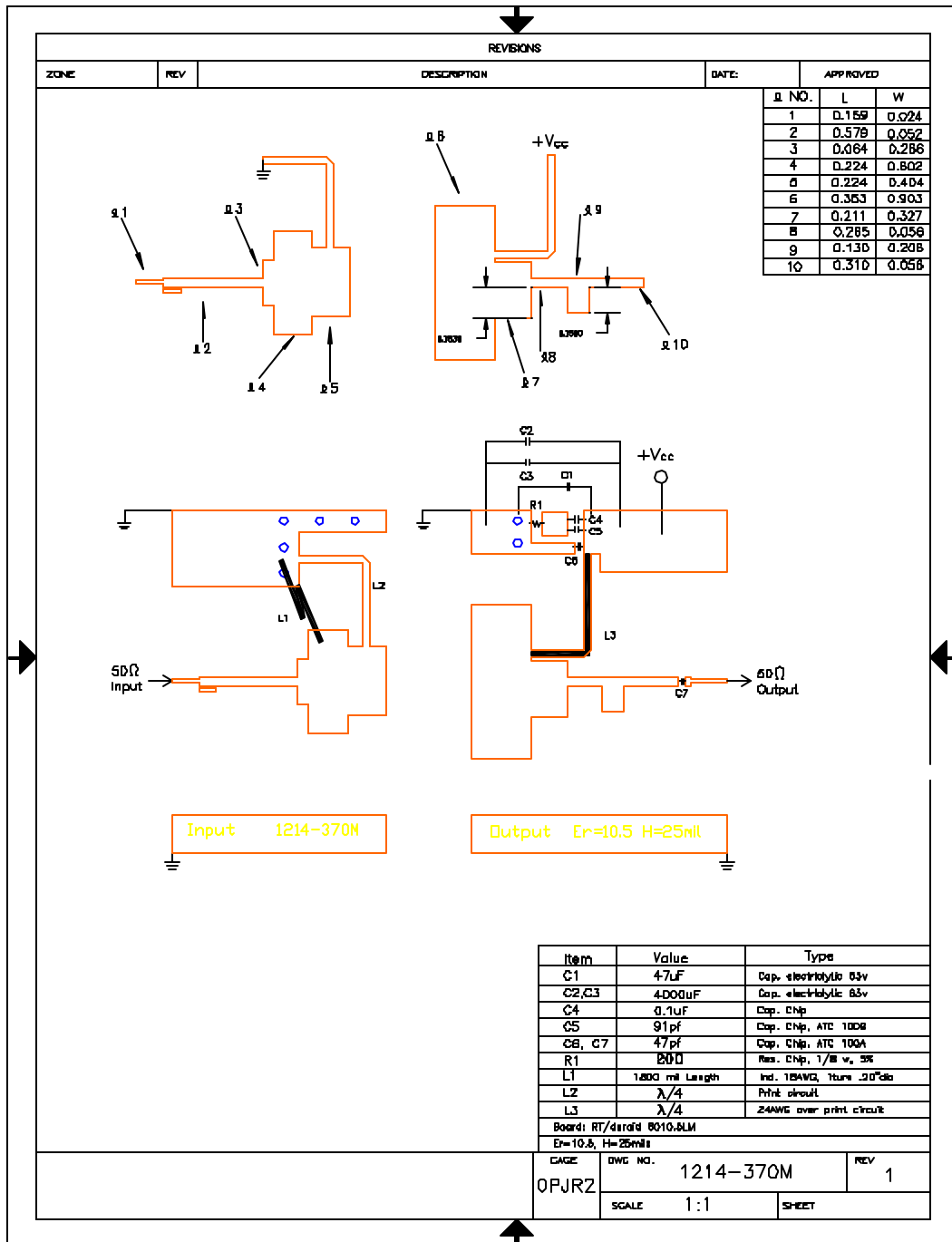
Impedance		
Freq	Zs	Zl
1200	1.75-j2.23	1.52-j2.11
1300	1.75-j1.63	1.36-j1.97
1400	1.76-j1.19	1.13-j1.77

Board Material RT 6010.5 LM 25 Mil
TRL Measurement

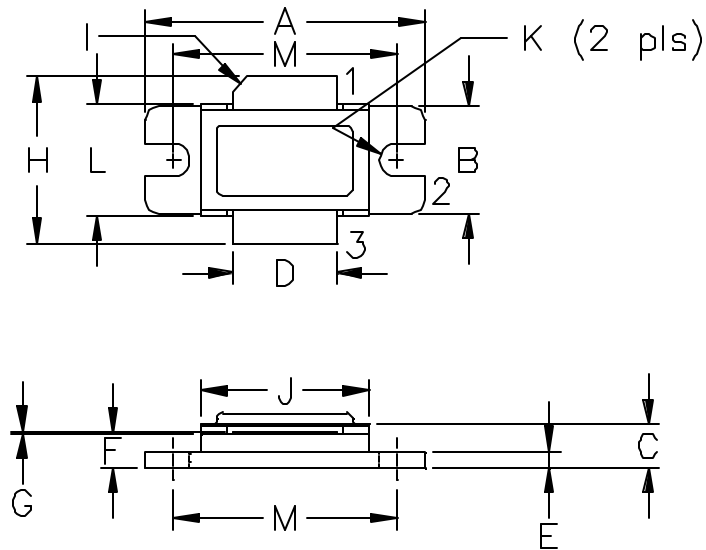
APT-RF, Inc. reserves the right to make changes without further notice. APT-RF recommends that before the product(s) described herein are written into specifications, or used in critical applications, that the performance characteristics be verified by contacting the factory.

1214-370M

Broadband Test Fixture



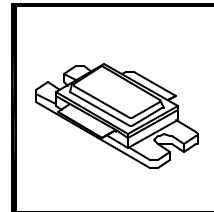
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DIM	MILLIMETER	±TOL	INCHES	±TOL
A	25.40	.25	1.000	.010
B	9.78	.25	.385	.010
C	4.00	.19	.142	.007
D	9.40	.13	.370	.005
E	1.53	.13	.060	.005
F	3.18	.13	.125	.005
G	0.08	$+0.01/-0.00$.003	$+0.02/-0.00$
H	19.05	0.51	.750	.020
I	45°	5°	45°	5°
J	15.24	.25	.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