



1214 – 370V

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

GENERAL DESCRIPTION

The 1214-370V 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°C¹ 530 Watts

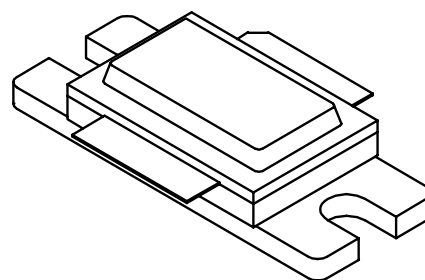
Maximum Voltage and Current

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
Pout	Power Out Pulsed	F = 1200-1400 MHz Vcc = 50 Volts, Pin=50W	370		460	Watts
Pg	Power Gain	Pulse Width = 330 μ S Duty = 10 %	8.7	9.0		dB
η_c	Collector Efficiency		50			%
RI	Input return loss		10			dB
Pd	Pulse Amplitude Droop				0.5	dB
Flatness	Output Power Flatness				1.0	dB
VSWR-S	Load Mismatch Stability				1.5:1	
VSWR-T	Load Mismatch Tolerance	Tested @Pout=370W			2.5:1	

Note: Test @ 1.2, 1.3, and 1.4 GHz.

FUNCTIONAL CHARACTERISTICS @ 25°C

Bvces	Collector to Emitter Breakdown	Ic = 100 mA	75			Volts
Ices	Collector to Emitter Leakage	Vce = 50 Volts			10	mA
θ_{jc}¹	Thermal Resistance	Rated Pulse Condition			0.29	°C/W

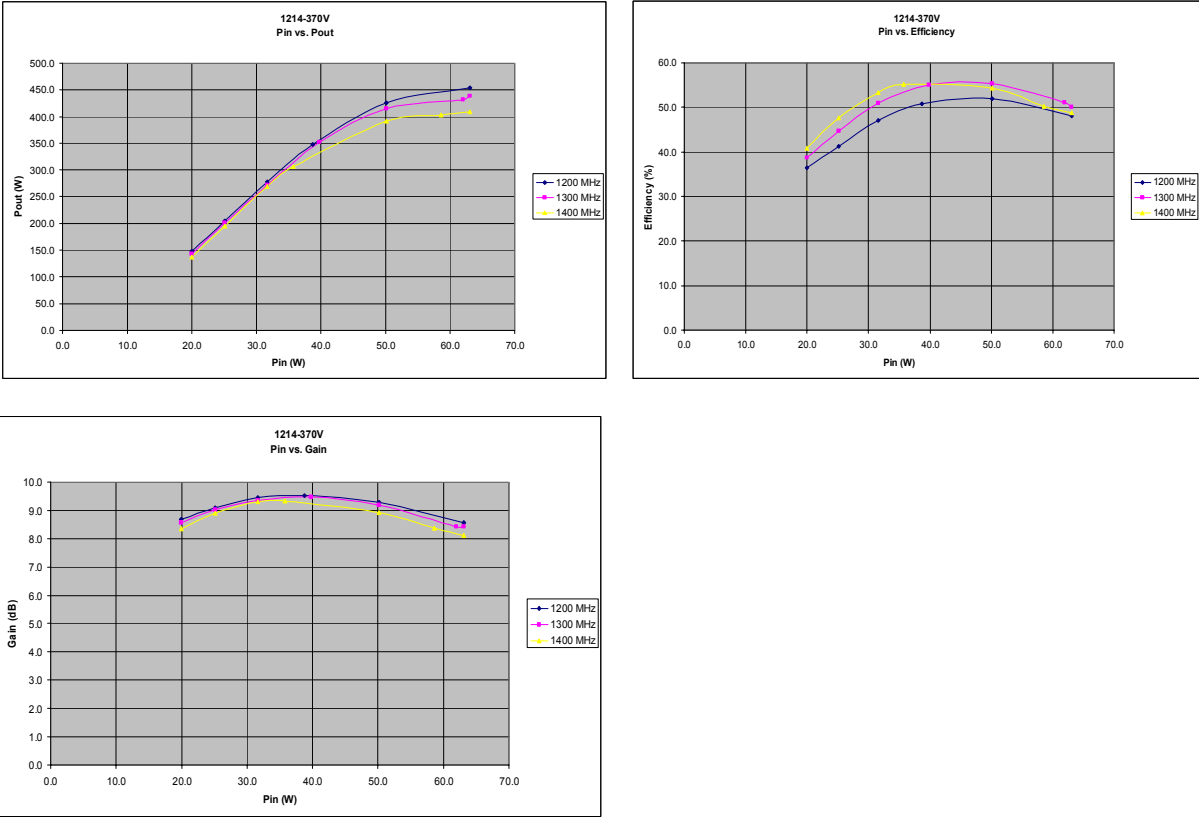
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MSC Corp. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 TEL. 408-986-8031 FAX 408-869-2324

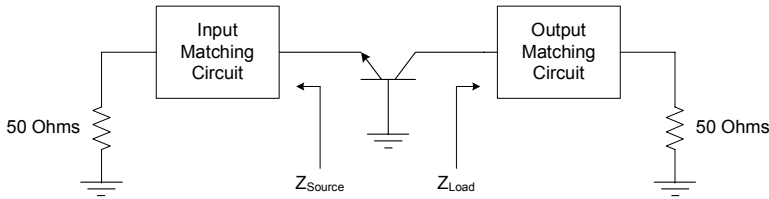


1214-370V

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

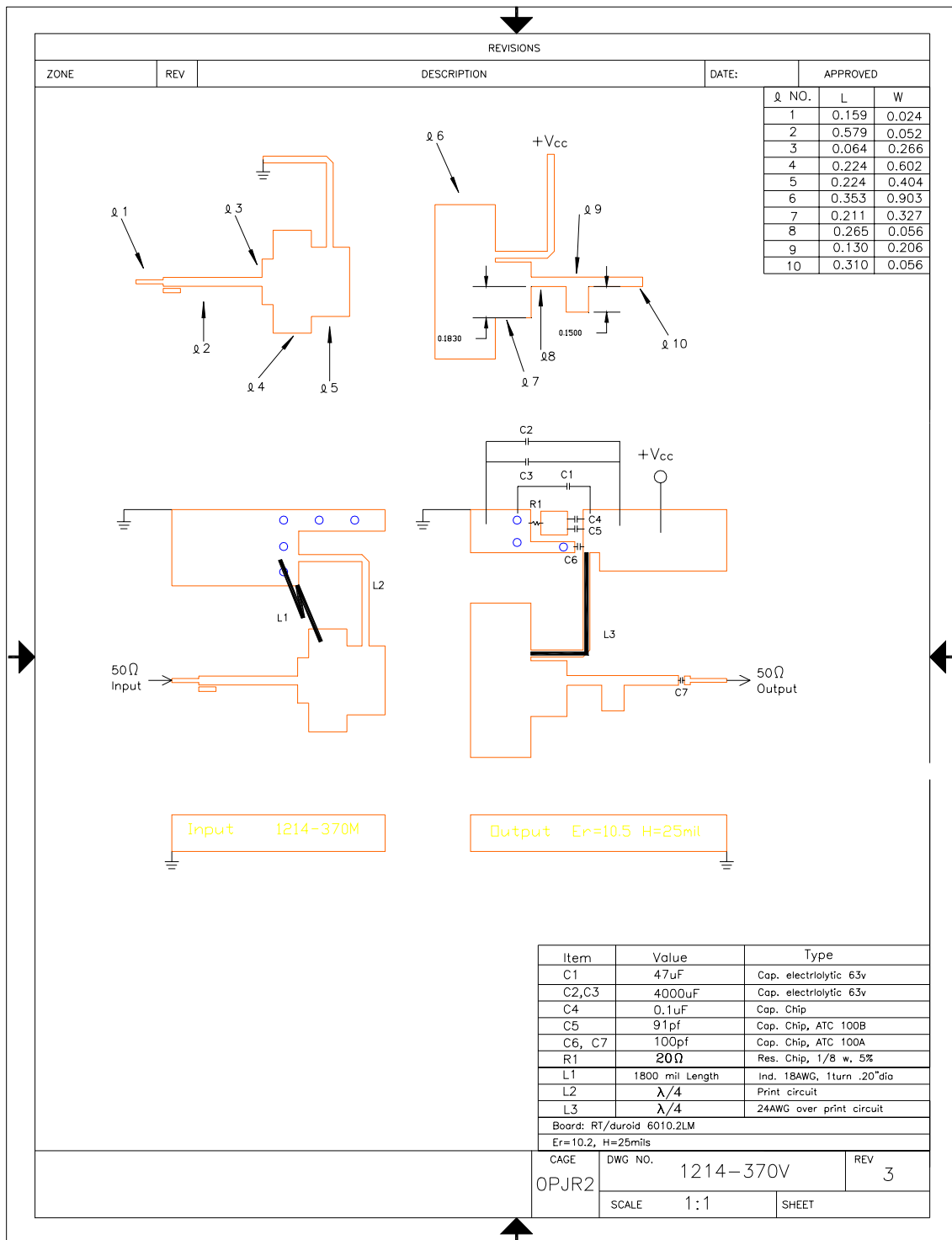
Board Material RT 6010.2 LM 25 Mil
TRL Measurement

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1214-370V R1

1214-370V**Broadband Test Fixture**

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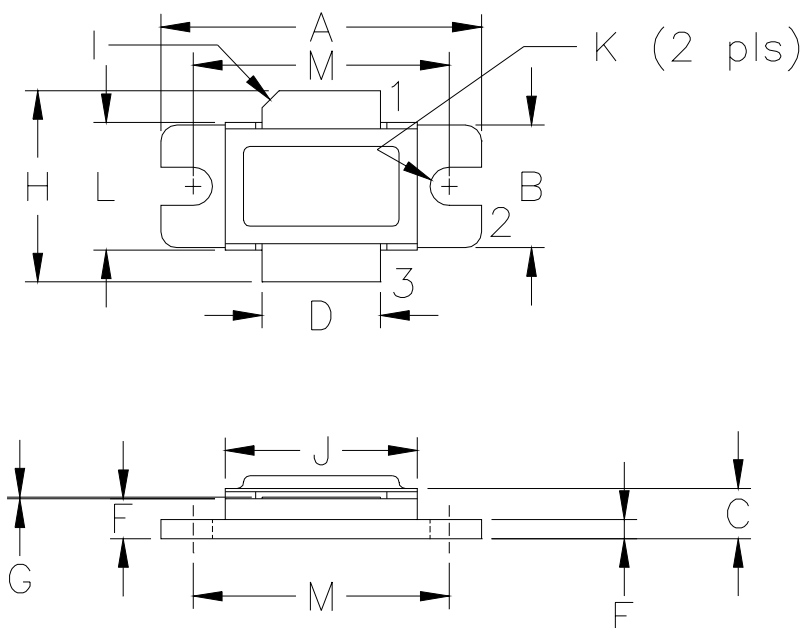


1214-370V R1

1214-370V

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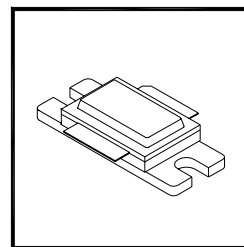
DIM	MILLIMETER	±TOL	INCHES	±TOL
A	25.40	.25	1.000	.010
B	9.78	.25	.385	.010
C	4.00	.19	.142	.007
D	9.40	.13	.370	.005
E	1.53	.13	.060	.005
F	3.18	.13	.125	.005
G	0.08	+05/-00	.003	+002/-000
H	19.05	0.51	.750	.020
I	45°	5°	45°	5°
J	15.24	.25	.600	.010
K	3.05 DIA	.13	.120 DIA	.005
L	10.15	.13	.400	.005
M	20.32	.25	.800	.010

STYLE 1:

PIN 1 = COLLECTOR
 2 = BASE
 3 = EMITTER

STYLE 2:

PIN 1 = COLLECTOR
 2 = EMITTER
 3 = BASE



CHz TECHNOLOGY
 RF - MICROWAVE SILICON POWER TRANSISTORS

DWG NO.

55ST

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