

1214 - 370V

370 Watts - 50 Volts, 330 μs, 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

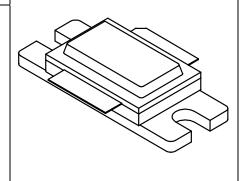
Maximum Voltage and Current

BVces Collector to Emitter Voltage 75 Volts
BVebo Emitter to Base Voltage 3.0 Volts
Ic Collector Current 25 Amps

Maximum Temperatures

Storage Temperature $-65 \text{ to} + 200^{\circ}\text{C}$ Operating Junction Temperature $+200^{\circ}\text{C}$

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,	370		460	Watts
Pg	Power Gain	Pin=50W	8.7	9.0		dB
ης	Collector Efficiency	Pulse Width = $330 \mu S$	50			%
RI	Input return loss	Duty = 10 %	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.

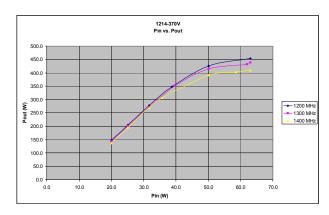
FUNCTIONAL CHARACTERISTICS @ 25°C

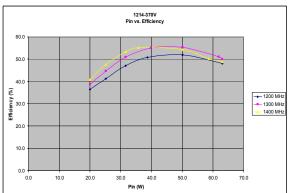
Bvces Ices	Collector to Emitter Breakdown Collector to Emitter Leakage Thermal Resistance	Ic = 100 mA Vce = 50 Volts Rated Pulse Condition	75	10	Volts mA
θjc¹	Thermal Resistance	Rated I disc Condition		0.29	°C/W

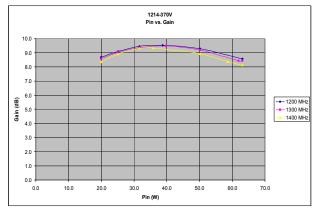


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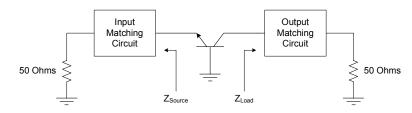
Performance Curves





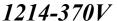


Impedance Information



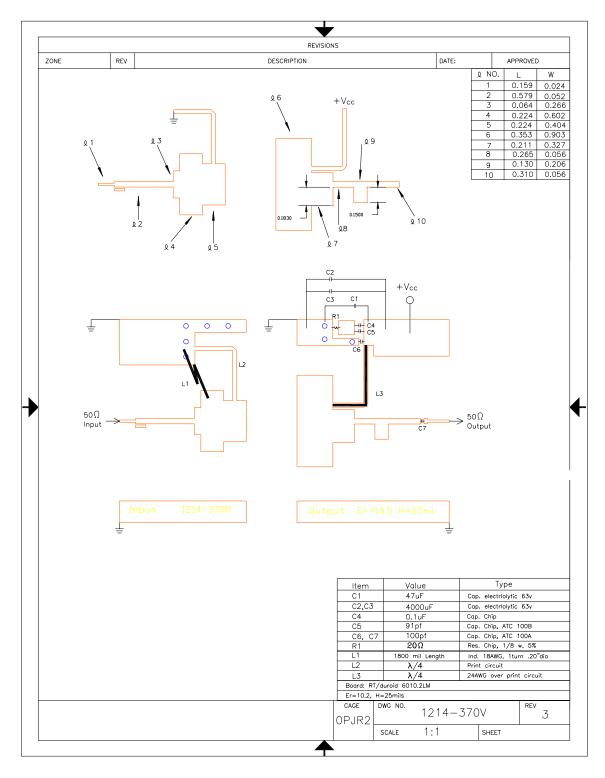
Impedance					
Freq	Zs	ZI			
1200	1.75-j2.23	1.52-j2.11			
1300	1.75-j1.63	1.36-j1.97			
1400	1.76-j1.19	1.13-j1.77			
		_			

Board Material RT 6010.2 LM 25 Mil TRL Measurement





Broadband Test Fixture



MSC Corp., reserves the right to make changes without further notice. MSC 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.



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