GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

2223-9A

9 Watts - 24 Volts, Class C
Microwave 2200 - 2300 MHz

GENERAL DESCRIPTION

The 2223-9 is a COMMON BASE transistor capable of providing 9 Watts of Class C, RF output power over the band 2200 - 2300 MHz. This transistor is designed for Microwave Broadband Class C amplifier applications. It includes input and output prematching and utilizes Gold metalization and diffused ballasting to provide high reliability and supreme ruggedness. The transistor uses a fully hermetic High Temperature Solder sealed package.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC 29 Watts

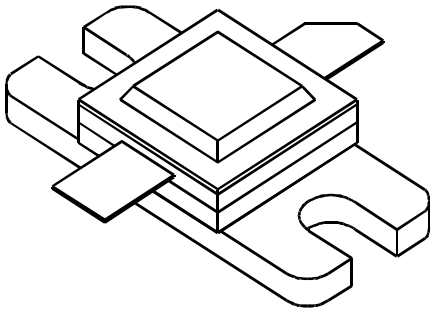
Maximum Voltage and Current

BVces	Collector to Emiter Voltage	45 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	1.5 Amps

Maximum Temperatures

Storage Temperature	- 65 to + 200ºC
Operating Junction Temperature	+ 200ºC

CASE OUTLINE
55AW, STYLE 1



ELECTRICAL CHARACTERISTICS @ 25 ^{O}C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Output	F =2.2 - 2.3 GHz	9			Watts
Pin	Power Input	Vcc = 24 Volts			1.5	Watts
Pg	Power Gain		8.0			dB
η**c**	Efficiency			40		%
VSWR	Load Mismatch Tolerance				10:1	

BVces	Collector to Base Breakdown	Ic = 50 mA	40			Volts
BVebo	Emitter to Base Breakdown	Ie = 10 mA	3.5			Volts
Hfe	Current Gain	Vce = 5 V, Ic= 160mA	10		100	
Cob	Output Capacitance*	Vcb = 28V, 1MHz				pF
θ**jc**	Thermal Resistance	Tc = 25 ºC			6.0	ºC/W

* Not measureable due to internal prematch network

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CHz TECHNOLOGY
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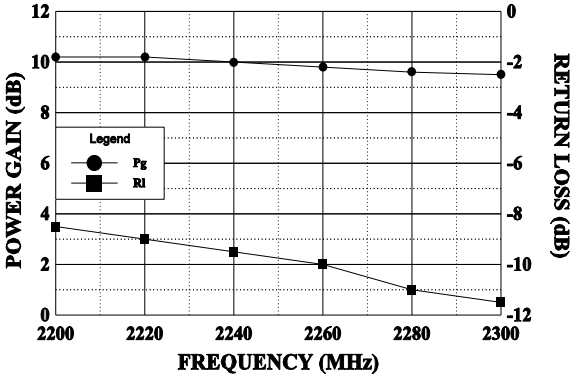
2223-9A

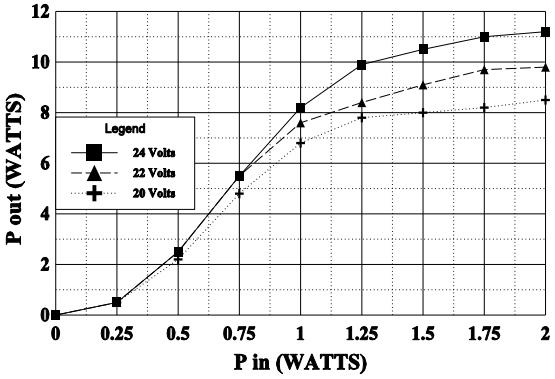
BROADBAND POWER GAIN & RETURN LOSS

Pout = 9 Watts, Vcc = 24 Volts



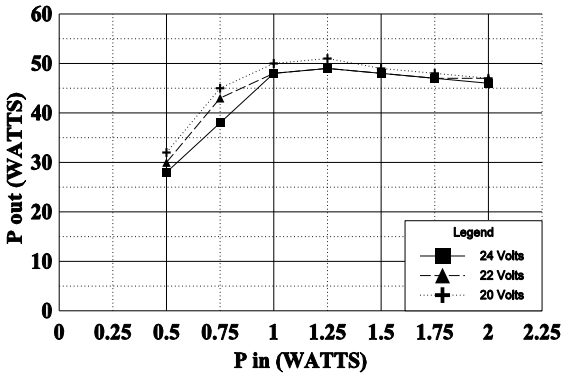
POWER OUTPUT vs POWER INPUT

Vcc - 20, 22, 24 Volts



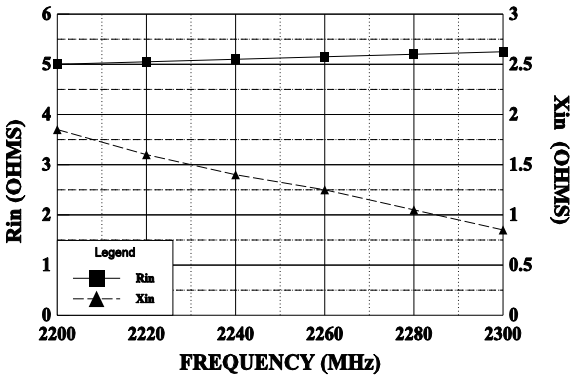
EFFICIENCY vs POWER IN

Vcc - 20, 22, 24 Volts



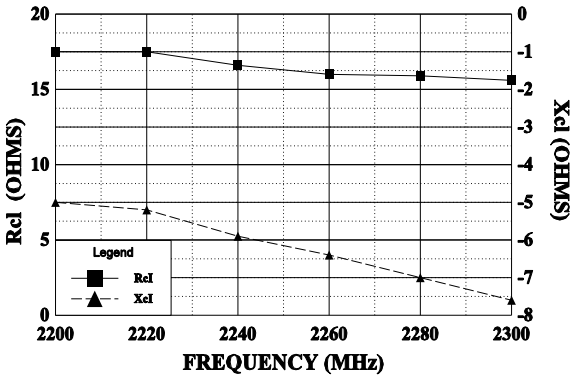
INPUT IMPEDANCE

Vcc = 24 V, Pin = 1.5 W



LOAD IMPEDANCE

Vcc = 24 V, Pin = 1.5 W



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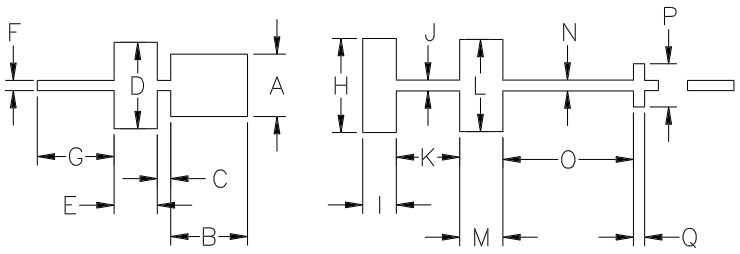
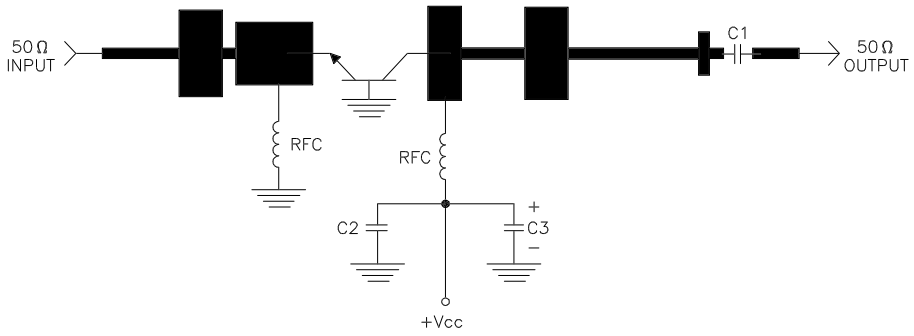
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
A	.325
B	.400
C	.070
D	.450
E	.225
F	.058
G	.400
H	.300
I	.245
J	.330
K	.270
L	.500
M	.445
N	.150
O	.800
P	.150
Q	.190

2223-9 TEST CIRCUIT



T = 20 MIL TFE, Er = 2.55
C1,C2 = 62pF CHIP ATC "A"
C3 = 10MFD @ 35V
RFC = 4 turns 22 wire 1/16" I.D.

GHz TECHNOLOGY	CAGE	DWG NO.	REV
	0PJR2	2223-9	A
		SCALE 1/1	SHEET