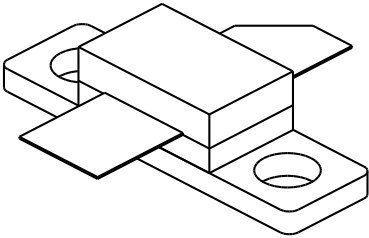


1920AB4

4 Watts, 25 Volts, Class AB
Personal 1930 - 1990 MHz

<p>GENERAL DESCRIPTION The 1920AB4 is a COMMON EMITTER transistor capable of providing 4 Watts of Class AB, RF output power over the band 1930-1990 MHz. This transistor is specifically designed for PERSONAL COMMUNICATIONS BASE STATION amplifier applications. It includes Input prematching and utilizes Gold metalization and HIGH VALUE EMITTER ballasting to provide high reliability and supreme ruggedness. .</p>	<p>CASE OUTLINE 55CT, STYLE 2 COMMON EMITTER</p> 
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation @ 25°C 20 Watts</p> <p>Maximum Voltage and Current</p> <p>BVces Collector to Emitter Voltage 55 Volts LVceo Collector to Emitter Voltage 27 Volts BVebo Emitter to Base Voltage 3.5 Volts Ic Collector Current 1.5 Amps</p> <p>Maximum Temperatures</p> <p>Storage Temperature - 65 to + 150°C Operating Junction Temperature + 200°C</p>	

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 1990 MHz	4.0			Watt
Pin	Power Input	Vce = 25 Volts			.50	Watt
Pg	Power Gain	Icq = 100 mAmps	9.0	10.0		dB
η_c	Collector Efficiency	As Above		43		%
VSWR ₁	Load Mismatch Tolerance				3:1	

BVces	Collector to Emitter Breakdown	Ic = 50 mA	55			Volts
LVceo	Collector to Emitter Breakdown	Ic = 50 mA	27			Volts
BVebo	Emitter to Base Breakdown	Ie = 10 mA	3.5			Volts
Ices	Collector Leakage Current	Vce = 27 Volts			1.0	mA
h _{FE}	DC - Current Gain	Vce = 5 V, Ic = 0.1 A	20		100	
Cob	Output Capacitance	F = 1 MHz, Vcb = 28 V		5.5		pF
θ_{jc}	Thermal Resistance	Tc = 25°C			6.0	°C/W

Issue February 1996

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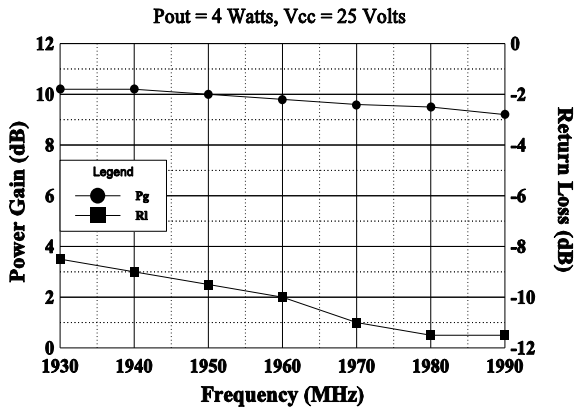


GHz TECHNOLOGY
RF · MICROWAVE SILICON POWER TRANSISTORS

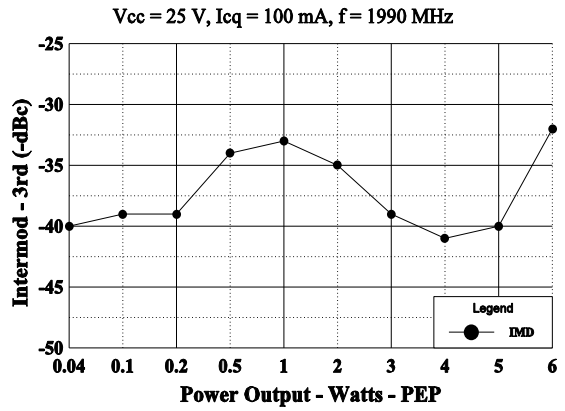
Typical Performance

1920AB4

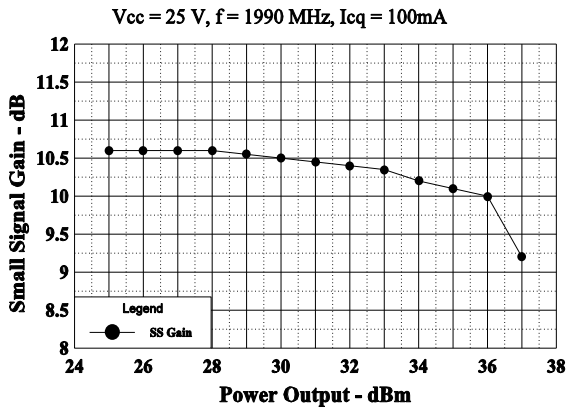
BROADBAND POWER GAIN & RETURN LOSS



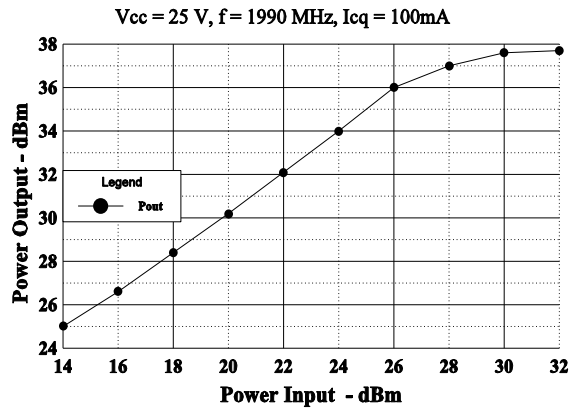
THIRD ORDER IMD vs POWER OUTPUT



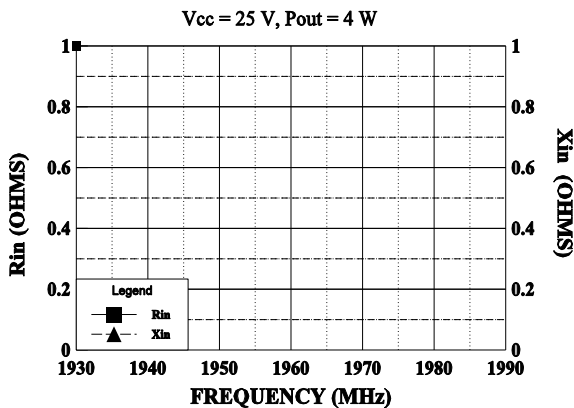
Power Gain vs Power Output



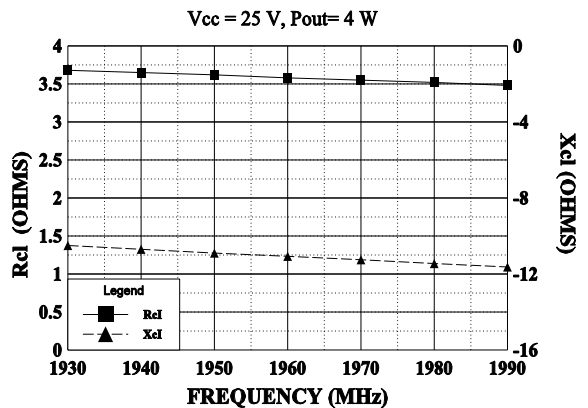
Power Output vs Power Input - dBm



INPUT IMPEDANCE

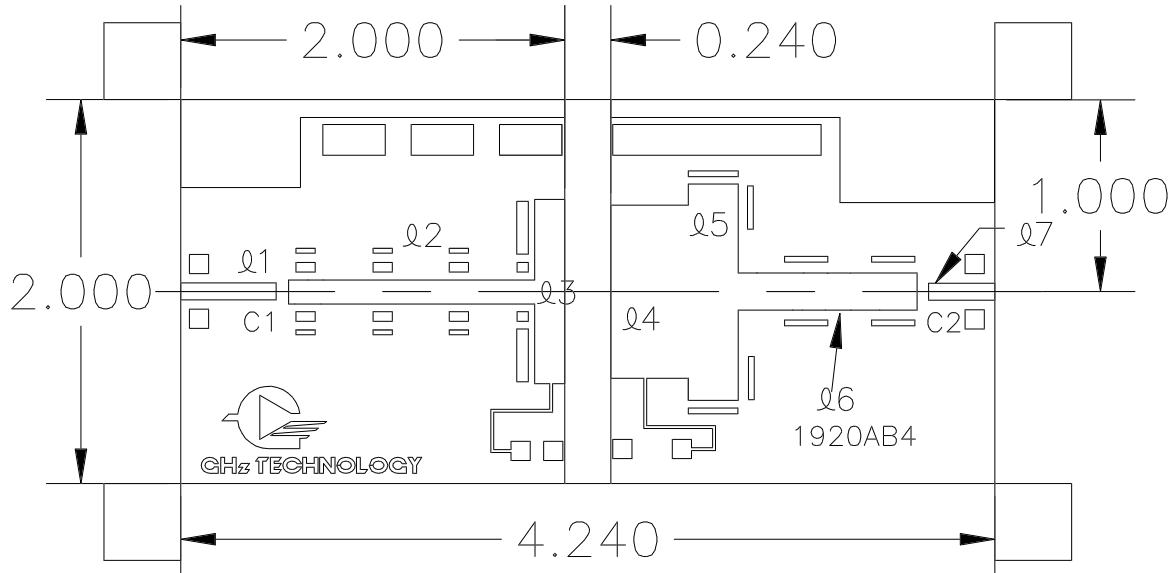


LOAD IMPEDANCE



REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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l NO.	X DIM	Y DIM
1	.500	.089
2	1.285	.126
3	.155	.990
4	.400	.900
5	.265	1.126
6	.930	.190
7	.345	.088

C1,C2=100pf ATC
 1/32" PTFE glass Er=2.5

DATE: 19 SEPT 95



GHz TECHNOLOGY

CAGE
OPJR2

DWG NO.

1920AB4

REV

3

SCALE

1/1

SHEET