GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

1920AB4

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

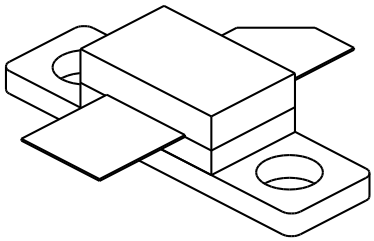
GENERAL DESCRIPTION

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. .

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC	20 Watts
Maximum Voltage and Current	
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
Maximum Temperatures	
Storage Temperature	- 65 to + 150ºC
Operating Junction Temperature	+ 200ºC

CASE OUTLINE
55CT, STYLE 2
COMMON EMITTER



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 = 25ºC			6.0	ºC/W

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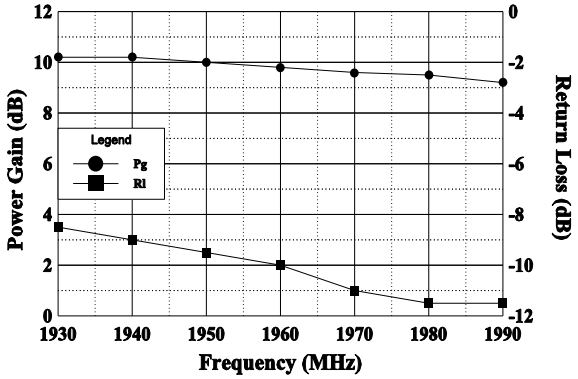
CHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

Typical Performance

1920AB4

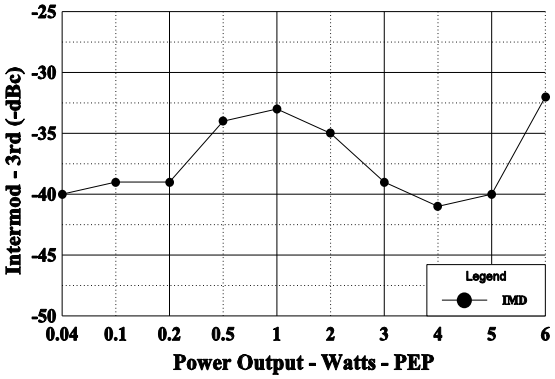
BROADBAND POWER GAIN & RETURN LOSS

Pout = 4 Watts, Vcc = 25 Volts



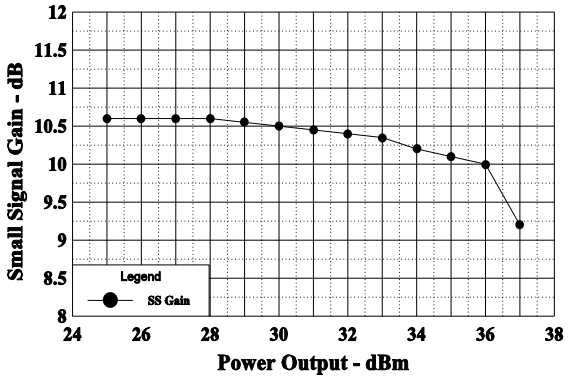
THIRD ORDER IMD vs POWER OUTPUT

Vcc = 25 V, Icq = 100 mA, f = 1990 MHz



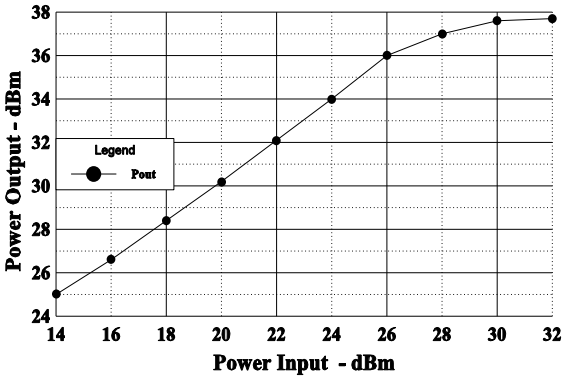
Power Gain vs Power Output

Vcc = 25 V, f = 1990 MHz, Icq = 100mA



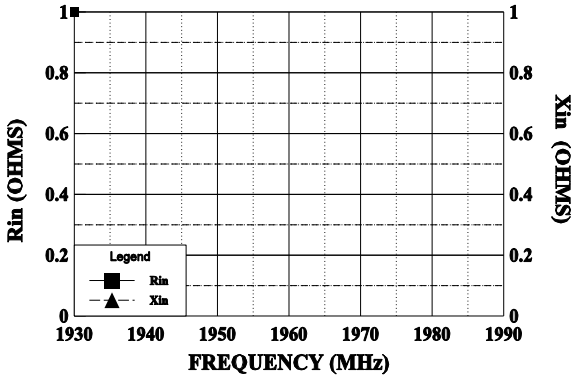
Power Output vs Power Input - dBm

Vcc = 25 V, f = 1990 MHz, Icq = 100mA



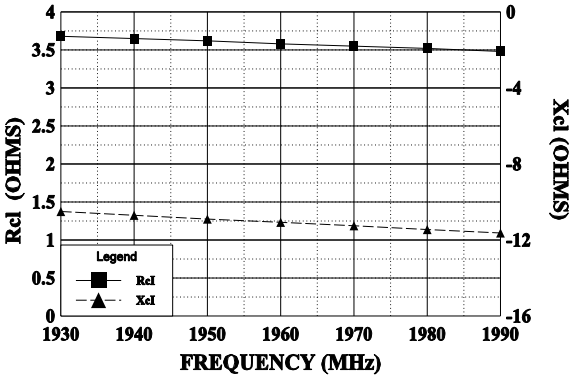
INPUT IMPEDANCE

Vcc = 25 V, Pout = 4 W



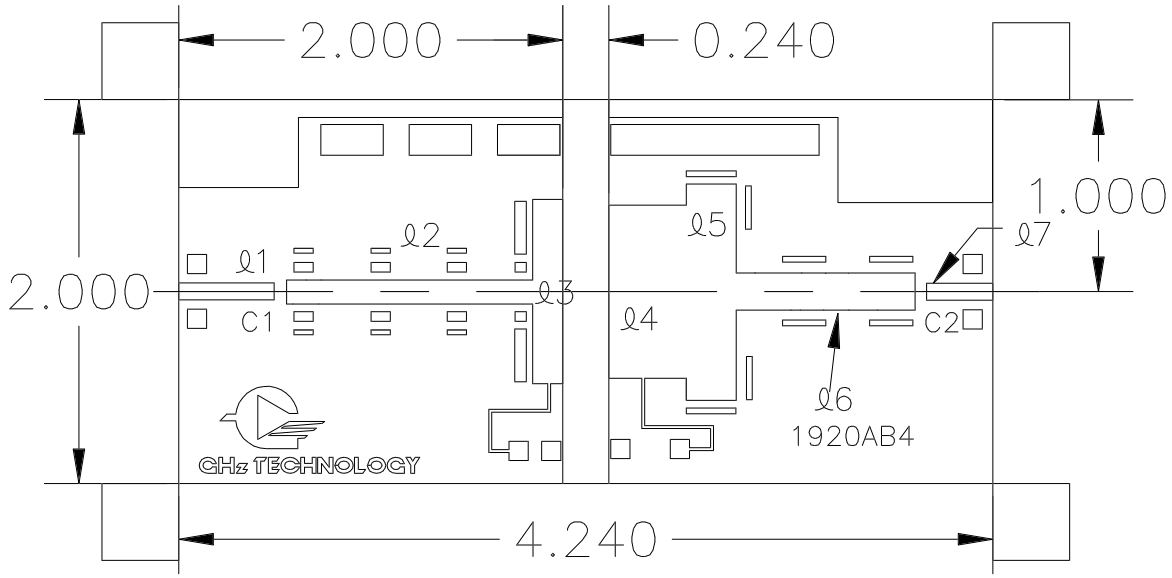
LOAD IMPEDANCE

Vcc = 25 V, Pout= 4 W



August 1996

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



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 0PJR2	DWG NO. 1920AB4	REV 3
		SCALE 1/1	SHEET