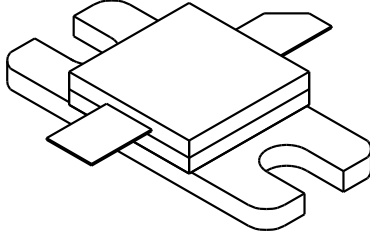


1920AB35

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

<p>GENERAL DESCRIPTION The 1920AB35 is a COMMON EMITTER transistor capable of providing 35 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 55AR, STYLE 2 COMMON EMITTER</p>																		
<p>ABSOLUTE MAXIMUM RATINGS</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Maximum Power Dissipation @ 25°C</td> <td style="text-align: right;">120 Watts</td> </tr> <tr> <td colspan="2">Maximum Voltage and Current</td> </tr> <tr> <td>BVces Collector to Emitter Voltage</td> <td style="text-align: right;">60 Volts</td> </tr> <tr> <td>LVceo Collector to Emitter Voltage</td> <td style="text-align: right;">27 Volts</td> </tr> <tr> <td>BVebo Emitter to Base Voltage</td> <td style="text-align: right;">3.5 Volts</td> </tr> <tr> <td>Ic Collector Current</td> <td style="text-align: right;">14.0 Amps</td> </tr> <tr> <td colspan="2">Maximum Temperatures</td> </tr> <tr> <td>Storage Temperature</td> <td style="text-align: right;">- 65 to + 150°C</td> </tr> <tr> <td>Operating Junction Temperature</td> <td style="text-align: right;">+ 200°C</td> </tr> </table>	Maximum Power Dissipation @ 25°C	120 Watts	Maximum Voltage and Current		BVces Collector to Emitter Voltage	60 Volts	LVceo Collector to Emitter Voltage	27 Volts	BVebo Emitter to Base Voltage	3.5 Volts	Ic Collector Current	14.0 Amps	Maximum Temperatures		Storage Temperature	- 65 to + 150°C	Operating Junction Temperature	+ 200°C	
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ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F =1990 MHz	35			Watt
Pin	Power Input	Vce = 25 Volts			6.0	Watt
Pg	Power Gain	Icq = 250 mAmps	8.0	8.5		dB
η_c	Collector Efficiency	As Above		43		%
VSWR₁	Load Mismatch Tolerance				3:1	

BVces	Collector to Emitter Breakdown	Ic = 50 mA	60			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			10	mA
h_{FE}	DC - Current Gain	Vce = 5 V, Ic = 0.7 A	20		100	
Cob	Output Capacitance	F =1 MHz, Vcb = 28 V		36		pF
θ_{jc}	Thermal Resistance	Tc = 25°C			1.6	°C/W

Issue January 1996

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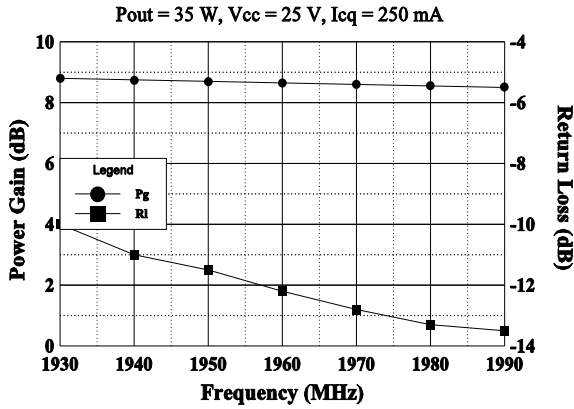


CHz TECHNOLOGY
RF · MICROWAVE SILICON POWER TRANSISTORS

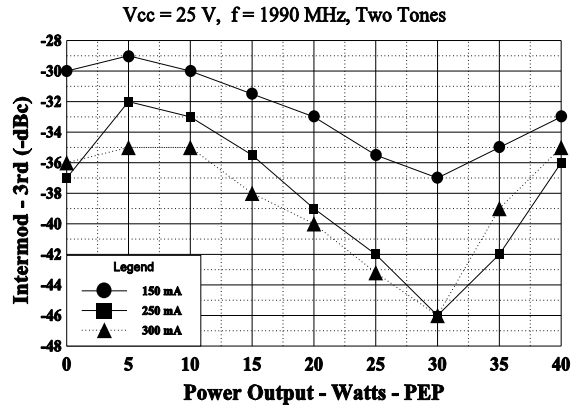
Typical Performance

1920AB35

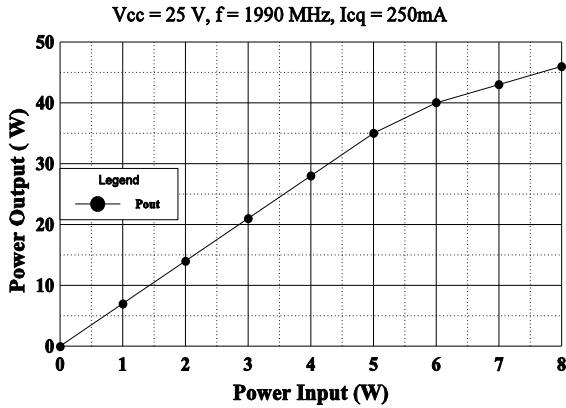
BROADBAND POWER GAIN & RETURN LOSS



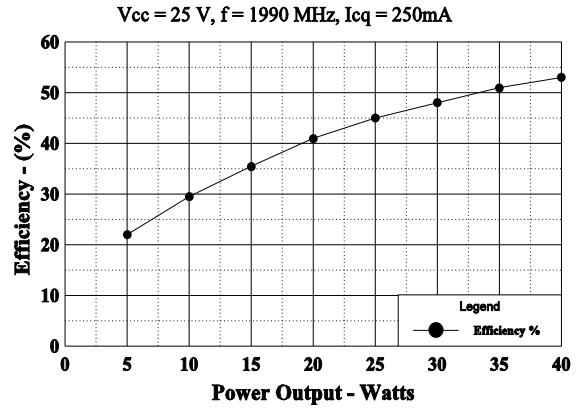
THIRD ORDER IMD vs POWER OUTPUT



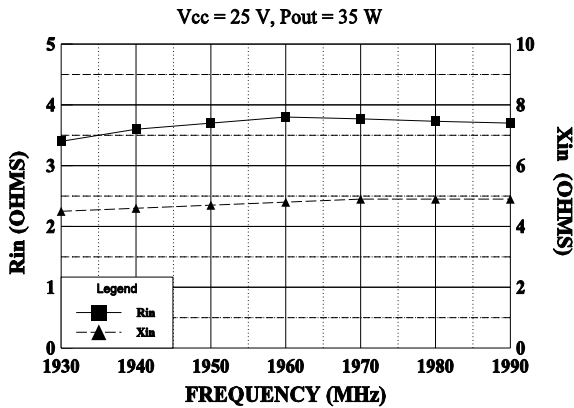
Power Output vs Power Input - CW



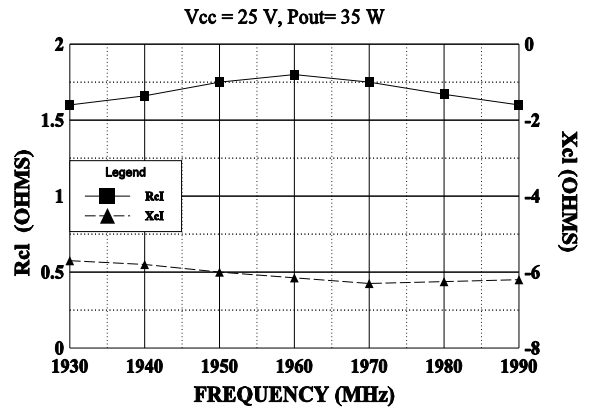
Collector Efficiency vs Power Out - CW



INPUT IMPEDANCE

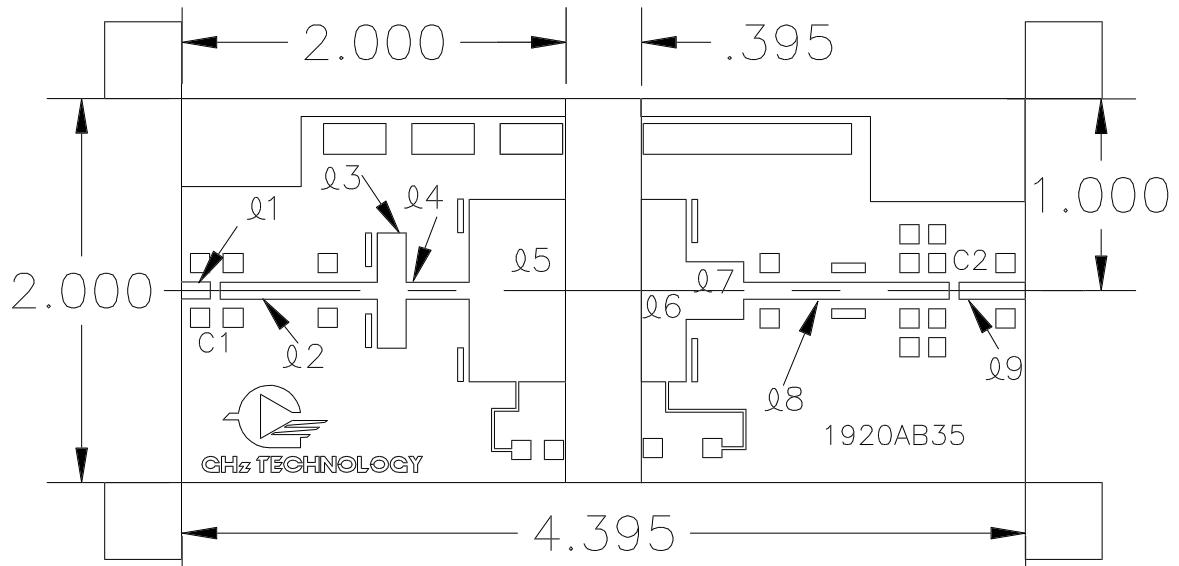


LOAD IMPEDANCE



REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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l NO.	X DIM	Y DIM
1	.150	.089
2	.820	.089
3	.150	.600
4	.200	.089
5	.500	.950
6	.234	.950
7	.300	.300
8	1.070	.089
9	.346	.089

C1,C2=100pf ATC

1/32" PTFE glass Er=2.5

DATE: 16 JAN 96



CHz TECHNOLOGY

CAGE
OPJR2

DWG NO.

1920AB35

REV

3

SCALE

1/1

SHEET