

1920AB60

60 Watts PEP, 25 Volts, Class AB
Personal 1930 - 1990 MHz

<p>GENERAL DESCRIPTION The 1920AB60 is a COMMON EMITTER transistor capable of providing 60 Watts of Class AB, RF PEP output power over the band 1930-1990 MHz. This transistor is specifically designed for LINEAR PERSONAL (PCS) COMMUNICATIONS BASE STATION amplifier applications. It includes two stage input and single output prematching. It utilizes Gold metalization and HIGH VALUE EMITTER ballasting to provide high reliability and supreme ruggedness. .</p>	<p>CASE OUTLINE 55SU, STYLE 2 COMMON EMITTER</p>														
<p>ABSOLUTE MAXIMUM RATINGS</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Maximum Power Dissipation @ 25°C</td> <td style="text-align: right;">200 Watts</td> </tr> </table> <p>Maximum Voltage and Current</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">BVces Collector to Emitter Voltage</td> <td style="text-align: right;">55 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;">20.0 Amps</td> </tr> </table> <p>Maximum Temperatures</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">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	200 Watts	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	20.0 Amps	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 - PEP	F = 1930 - 1990 MHz	60			Watt
Pin	Power Input - PEP	Vce = 25 Volts			11	Watt
Pg	Power Gain	Icq = 400 mAmps	7.3	8.0		dB
RI	Return Loss	As Above			-10	dB
η_c	Collector Efficiency		42	44		%
VSWR₁	Load Mismatch Tolerance				3:1	

BVces	Collector to Emitter Breakdown	Ic = 100 mA	55			Volts
BVceo	Collector to Emitter Breakdown	Ic = 100 mA	27			Volts
BVebo	Emitter to Base Breakdown	Ie = 25 mA	3.5			Volts
Ices	Collector Leakage Current	Vce = 27 Volts			30	mA
h_{FE}	DC - Current Gain	Vce = 5 V, Ic = 1.5 A	20		100	
θjc	Thermal Resistance	Tc = 25°C			.87	°C/W

Issue January 1997

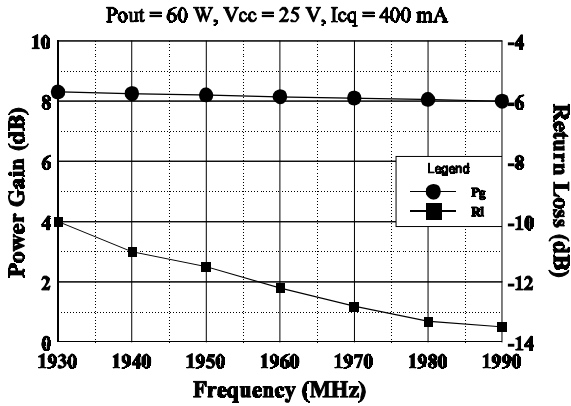
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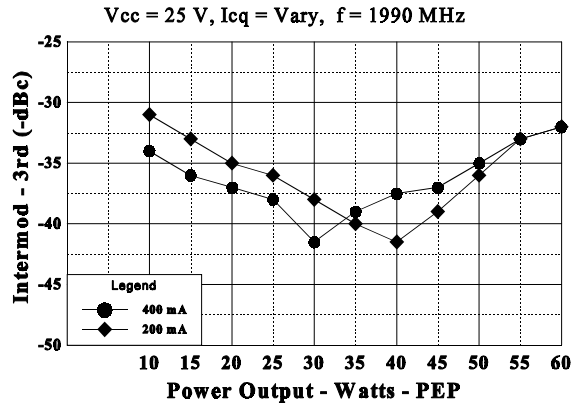
GHZ TECHNOLOGY
RF · MICROWAVE SILICON POWER TRANSISTORS

1920AB60

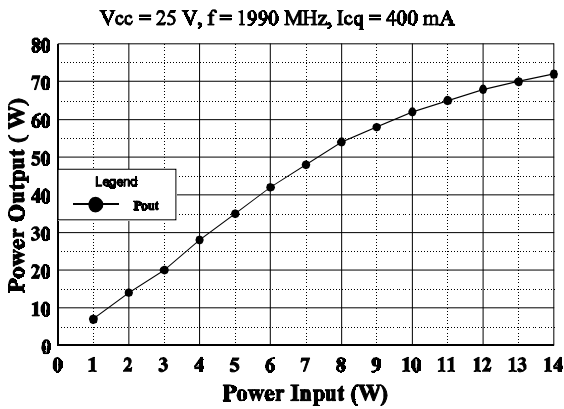
BROADBAND POWER GAIN & RETURN LOSS



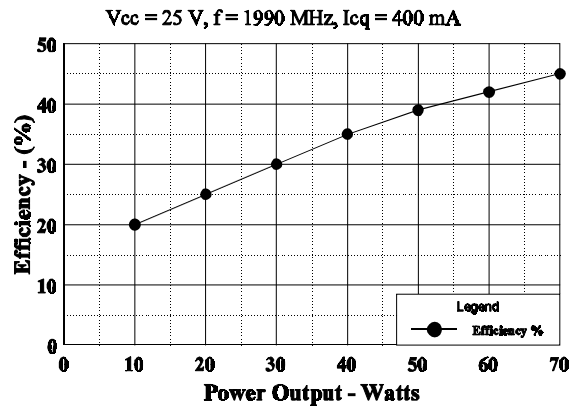
THIRD ORDER IMD vs POWER OUTPUT



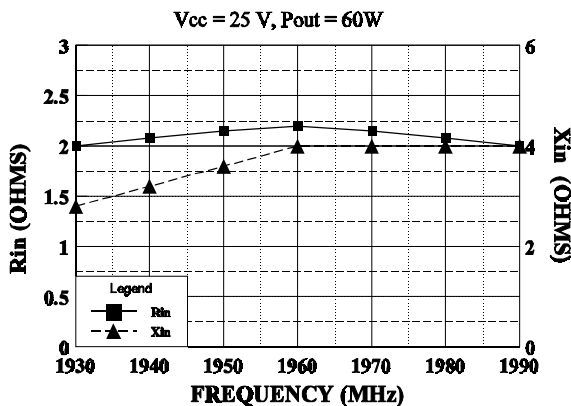
Power Output vs Power Input - PEP



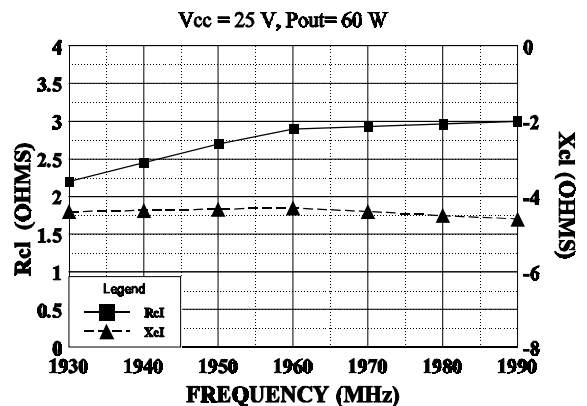
Collector Efficiency vs Power Out - PEP



SERIES INPUT IMPEDANCE



SERIES LOAD IMPEDANCE



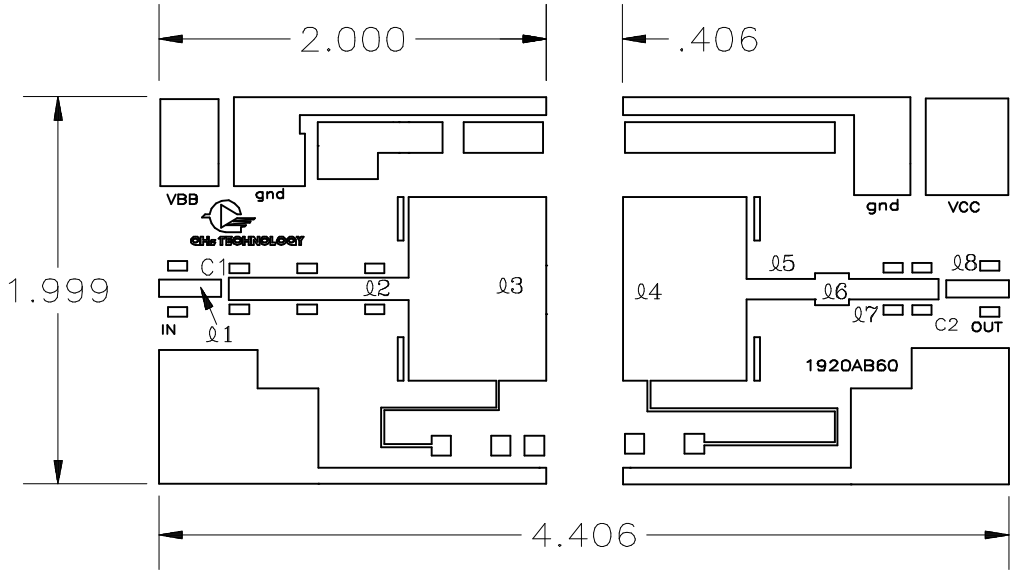
November 1996

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REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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C1,C2=51 pf ATC
 1/32" PTFE glass $\epsilon_r = 2.55$

l NO.	X DIM	Y DIM
1	.320	.089
2	.930	.115
3	.710	.950
4	.635	.950
5	.355	.105
6	.175	.168
7	.465	.105
8	.330	.089

Rev DATE: 27 Dec 96



CAGE OPJR2	DWG NO. 1920AB60	REV 1
	SCALE 1/1	SHEET