GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

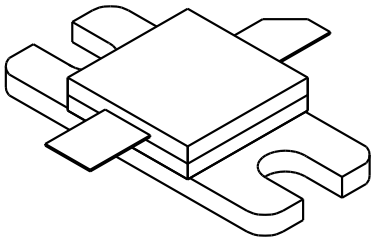
1819AB35

35 Watts, 25 Volts, Class AB
Personal 1808 - 1880 MHz

GENERAL DESCRIPTION

The 1819AB35 is a COMMON EMITTER transistor capable of providing 35 Watts of Class AB, RF output power over the band 1808-1880 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. .

CASE OUTLINE
55AR, STYLE 2
COMMON EMITTER



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC	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 + 150ºC
Operating Junction Temperature	+ 200ºC

ELECTRICAL CHARACTERISTICS @ 25 ^{O}C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F =1880 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		%
VSWR$_1$	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 = 25ºC			1.6	ºC/W

Issue March, 1996

GHz Technology Inc. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 Tel. 408 / 986-8031 Fax 408 / 986-8120

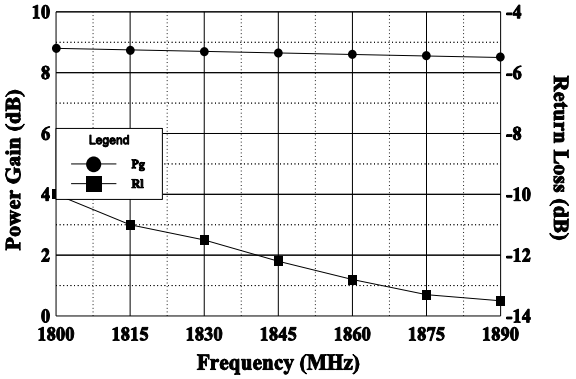
CHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

Typical Performance

1819AB35

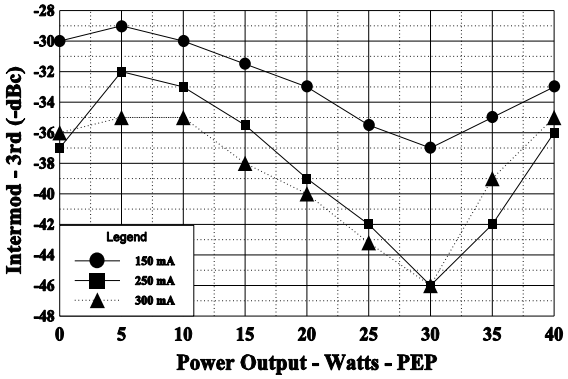
BROADBAND POWER GAIN & RETURN LOSS

Pout = 35 W, Vcc = 25 V, Icq = 250 mA



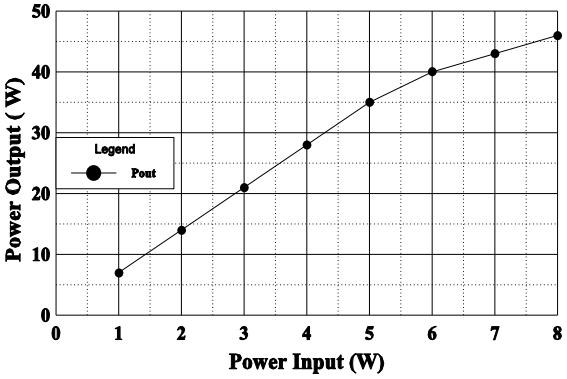
THIRD ORDER IMD vs POWER OUTPUT

Vcc = 25 V, f = 1880 MHz, Two Tones



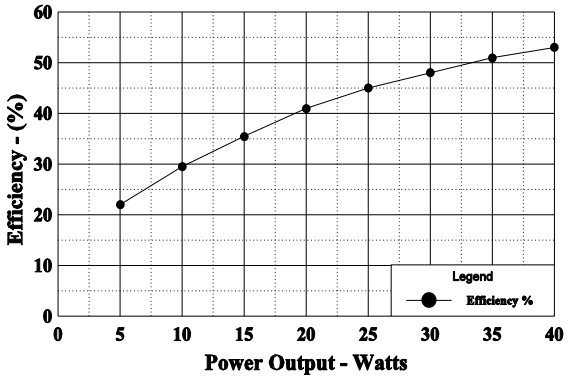
Power Output vs Power Input - CW

Vcc = 25 V, f = 1880 MHz, Icq = 250mA



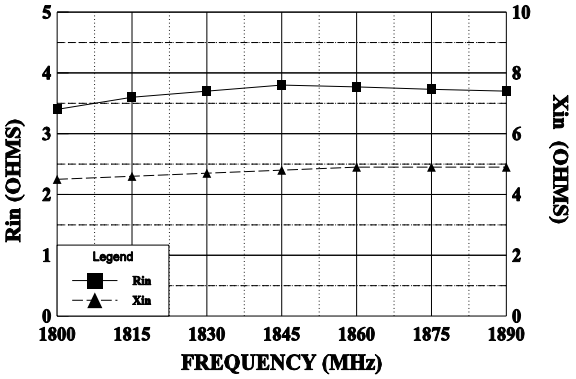
Collector Efficiency vs Power Out - CW

Vcc = 25 V, f = 1880 MHz, Icq = 250mA



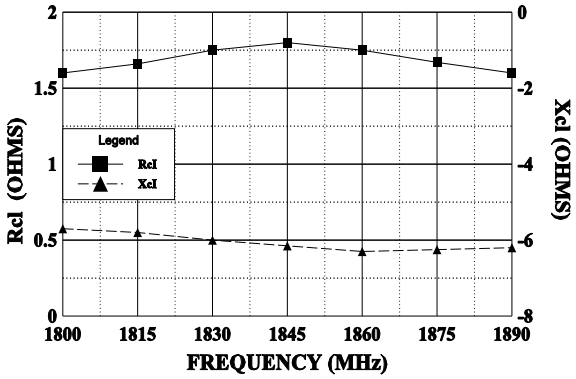
INPUT IMPEDANCE

Vcc = 25 V, Pout = 35 W



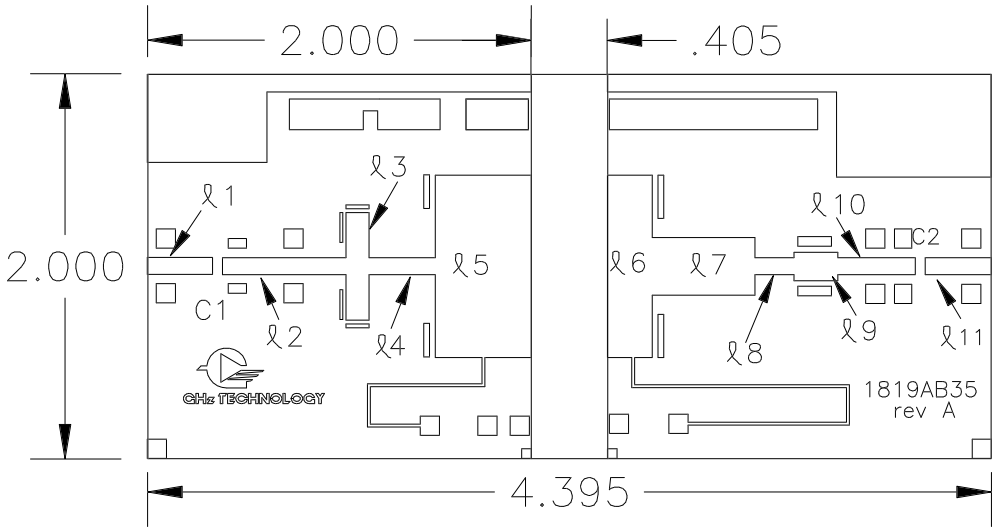
LOAD IMPEDANCE

Vcc = 25 V, Pout= 35 W



August 1996

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



ℓ NO.	X DIM	Y DIM
1	.340	.089
2	.645	.089
3	.120	.560
4	.345	.089
5	.500	.950
6	.234	.950
7	.535	.300
8	.205	.089
9	.230	.150
10	.405	.089
11	.346	.089

C1,C2=100pf ATC

1/32" PTFE glass Er=2.5

GHz TECHNOLOGY	CAGE 0PJR2	DWG NO. 1819AB35	REV –
		SCALE 1/1	SHEET