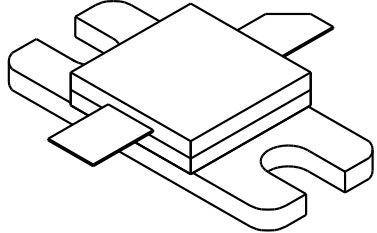


# 1617AB35

35 Watts, 25 Volts, Class AB  
Satcom 1600 - 1700 MHz

<p><b>GENERAL DESCRIPTION</b></p> <p>The 1617AB35 is a COMMON EMITTER transistor capable of providing 35 Watts of Class AB, RF output power over the band 1600 - 1700 MHz. This transistor is specifically designed for <b>SATCOM COMMUNICATIONS</b> amplifier applications. It includes Input prematching and utilizes Gold metalization and EMITTER BALLASTING to provide high reliability and supreme ruggedness. .</p>	<p><b>CASE OUTLINE</b> <b>55AR, STYLE 2</b> <b>COMMON EMITTER</b></p>																
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p>Maximum Power Dissipation @ 25°C <span style="float: right;">120 Watts</span></p> <p><b>Maximum Voltage and Current</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">BVces</td> <td style="width: 45%;">Collector to Emitter Voltage</td> <td style="width: 40%; text-align: right;">60 Volts</td> </tr> <tr> <td>LVceo</td> <td>Collector to Emitter Voltage</td> <td style="text-align: right;">27 Volts</td> </tr> <tr> <td>BVebo</td> <td>Emitter to Base Voltage</td> <td style="text-align: right;">3.5 Volts</td> </tr> <tr> <td>Ic</td> <td>Collector Current</td> <td style="text-align: right;">14.0 Amps</td> </tr> </table> <p><b>Maximum Temperatures</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 45%;">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;">+ 230°C</td> </tr> </table>	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	Storage Temperature	- 65 to + 150°C	Operating Junction Temperature	+ 230°C	 <p>A49</p>
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															
Storage Temperature	- 65 to + 150°C																
Operating Junction Temperature	+ 230°C																

**ELECTRICAL CHARACTERISTICS @ 25 °C**

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
<b>Pout</b>	Power Out	F = 1700 MHz	35			Watt
<b>Pin</b>	Power Input	Vce = 25 Volts			4.5	Watt
<b>Pg</b>	Power Gain	Icq = 250 mAmps	9.0	10.0		dB
$\eta_c$	Collector Efficiency	As Above		50		%
<b>VSWR</b>	Load Mismatch Tolerance	As Above			3:1	
<b>IMD<sub>3</sub></b>	3rd Order IMD	As Above			-30	dBc

<b>BVces</b>	Collector to Emitter Breakdown	Ic = 50 mA	60			Volts
<b>LVceo</b>	Collector to Emitter Breakdown	Ic = 50 mA	27			Volts
<b>BVebo</b>	Emitter to Base Breakdown	Ie = 10 mA	3.5			Volts
<b>Ices</b>	Collector Leakage Current	Vce = 27 Volts			10	mA
<b>h<sub>FE</sub></b>	DC - Current Gain	Vce = 5 V, Ic = 0.7 A	20		100	
<b>Cob</b>	Output Capacitance	F = 1 MHz, Vcb = 28 V		36		pF
$\theta_{jc}$	Thermal Resistance	Tc = 25°C			1.6	°C/W

Issue January 1996

GHz TECHNOLOGY INC. RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE. GHz RECOMMENDS THAT BEFORE THE PRODUCT(S) DESCRIBED HEREIN ARE WRITTEN INTO SPECIFICATIONS, OR USED IN CRITICAL APPLICATIONS, THAT THE PERFORMANCE CHARACTERISTICS BE VERIFIED BY CONTACTING THE FACTORY.

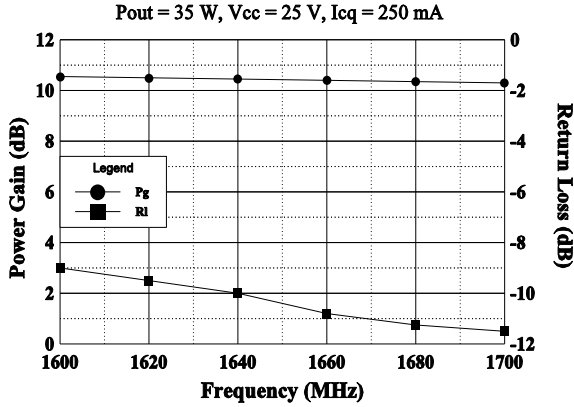


**GHZ TECHNOLOGY**  
RF·MICROWAVE SILICON POWER TRANSISTORS

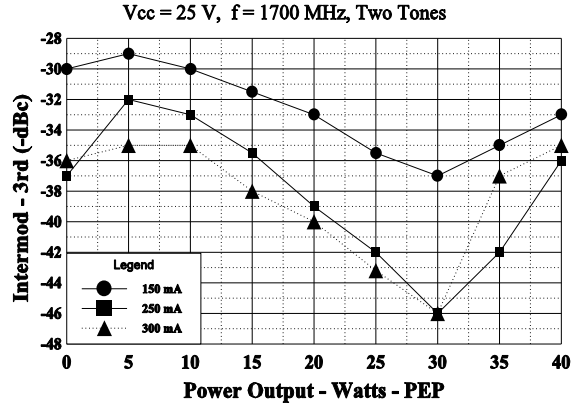
# Typical Performance

## 1617AB35

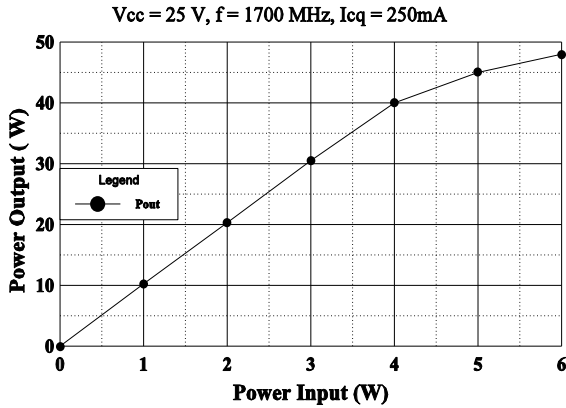
### BROADBAND POWER GAIN & RETURN LOSS



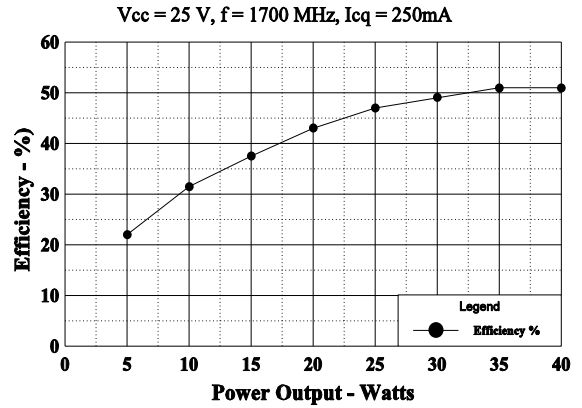
### THIRD ORDER IMD vs POWER OUTPUT



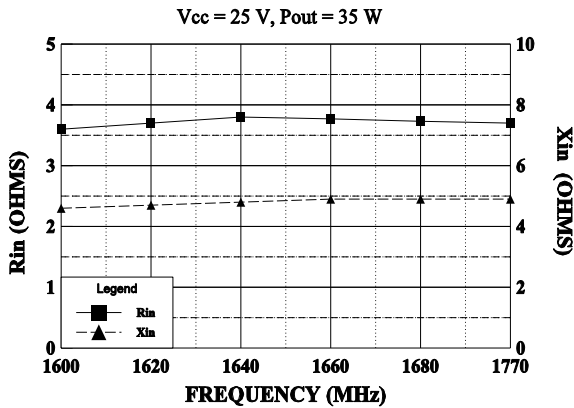
### Power Output vs Power Input - PEP



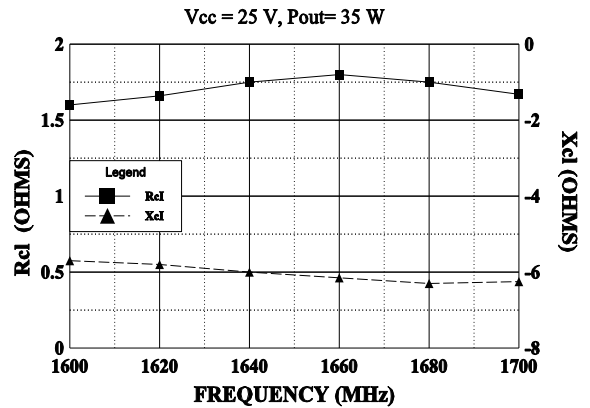
### Collector Efficiency vs Power Out - PEP



### INPUT IMPEDANCE

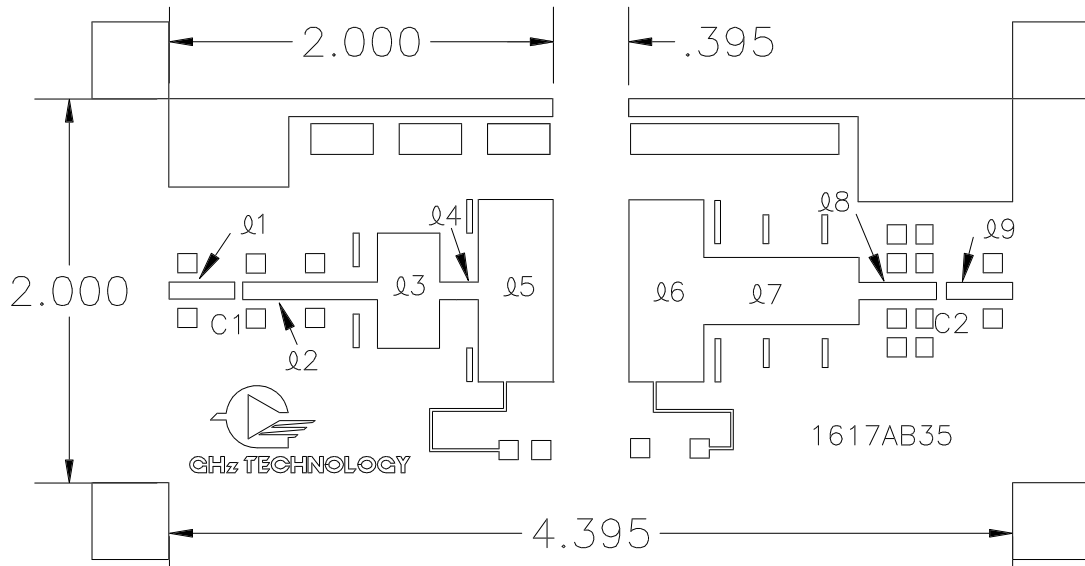


### LOAD IMPEDANCE



REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
------	-----	-------------	------	----------



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

l NO.	X DIM	Y DIM
1	.340	.089
2	.700	.089
3	.325	.600
4	.200	.089
5	.390	.950
6	.390	.950
7	.810	.350
8	.405	.089
9	.346	.089

DATE: 6 FEB 96



CAGE  
OPJR2

DWG NO.

1617AB35

REV

—

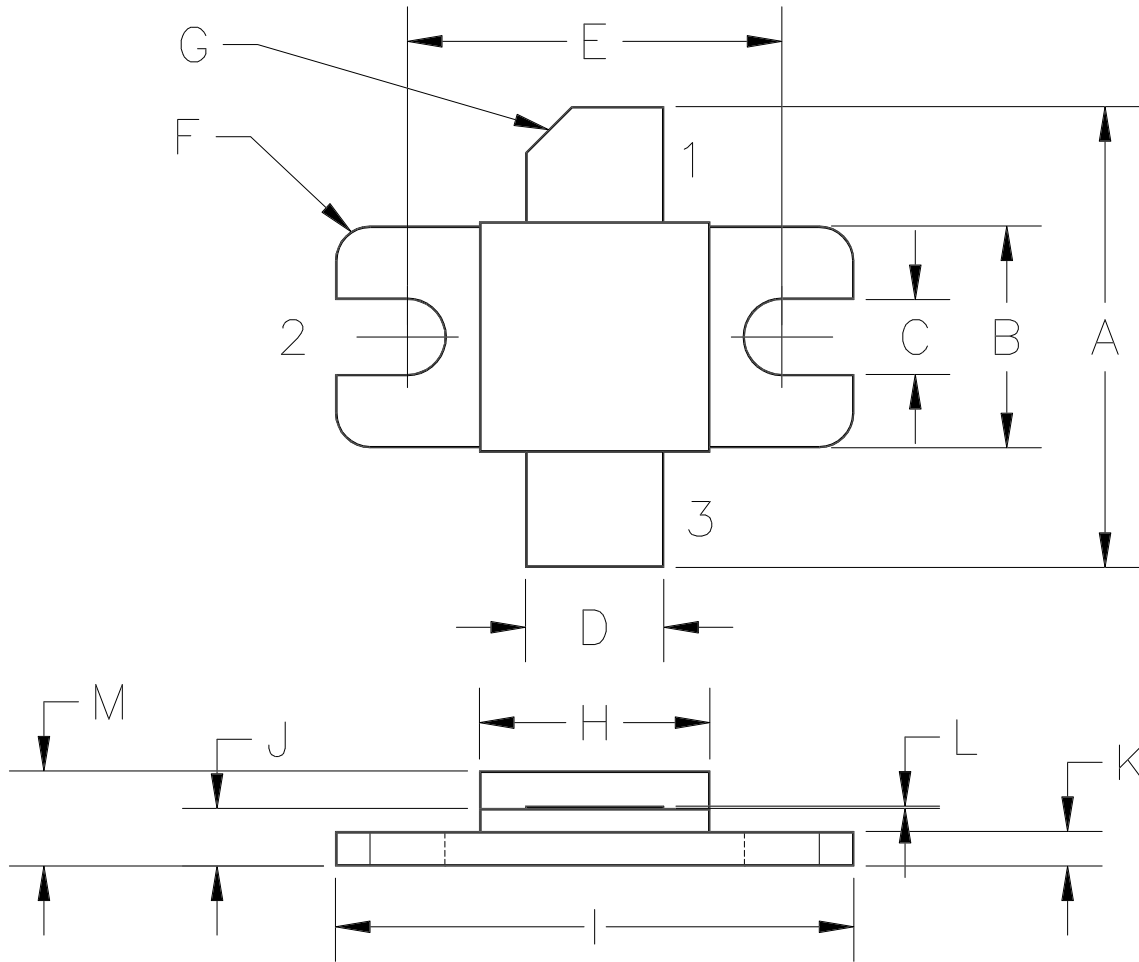
SCALE

1/1

SHEET

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
------	-----	-------------	------	----------



DIM	MILLIMETER	TOL	INCHES	TOL
A	20.32	.76	.800	.050
B	9.78	.13	.385	.005
C	3.30	.13	.130	.005
D	6.10	.13	.240	.005
E	16.51	.13	.650	.005
F	1.52 R	.13	.060 R	.005
G	45°	5°	45°	5°
H	10.16 SQ	.13	.400 SQ	.005
I	22.86	.13	.900	.005
J	2.54	.13	.100	.005
K	1.52	.13	.060	.005
L	.102	.02	.004	.001
M	4.19	.13	.165	.005

STYLE 1:  
 PIN 1 = COLLECTOR  
 2 = BASE  
 3 = EMITTER

STYLE 2:  
 PIN 1 = COLLECTOR  
 2 = EMITTER  
 3 = BASE

