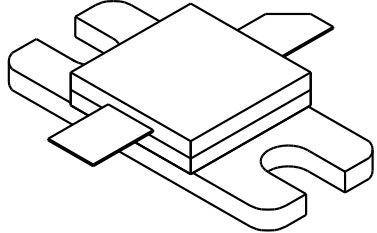


1617AB35

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

<p>GENERAL DESCRIPTION</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 SATCOM COMMUNICATIONS amplifier applications. It includes Input prematching and utilizes Gold metalization and EMITTER BALLASTING to provide high reliability and supreme ruggedness. .</p>	<p>CASE OUTLINE 55AR, STYLE 2 COMMON EMITTER</p>																
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation @ 25°C 120 Watts</p> <p>Maximum Voltage and Current</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">BVces</td> <td style="width: 40%;">Collector to Emitter Voltage</td> <td style="width: 30%; 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>Maximum Temperatures</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">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
Pout	Power Out	F = 1700 MHz	35			Watt
Pin	Power Input	Vce = 25 Volts			4.5	Watt
Pg	Power Gain	Icq = 250 mAmps	9.0	10.0		dB
η_c	Collector Efficiency	As Above		50		%
VSWR	Load Mismatch Tolerance	As Above			3:1	
IMD₃	3rd Order IMD	As Above			-30	dBc

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

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.

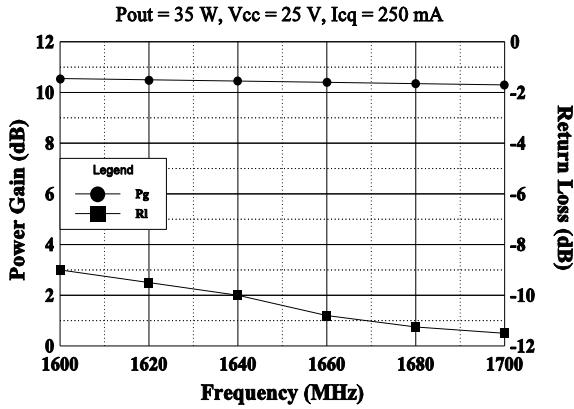


GHZ TECHNOLOGY
RF · MICROWAVE SILICON POWER TRANSISTORS

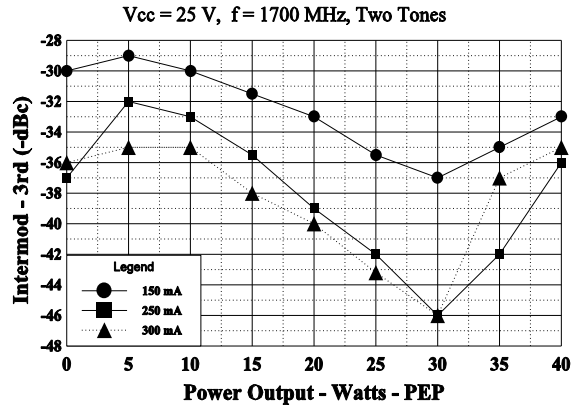
Typical Performance

1617AB35

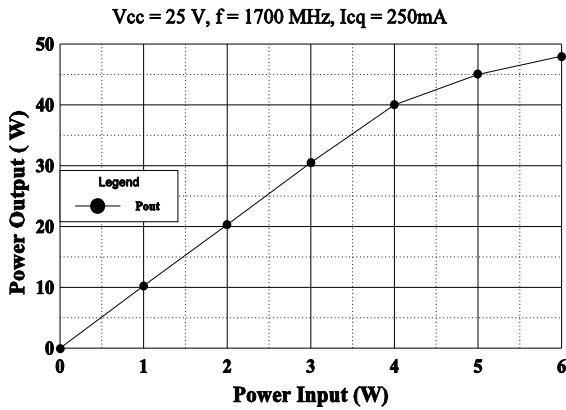
BROADBAND POWER GAIN & RETURN LOSS



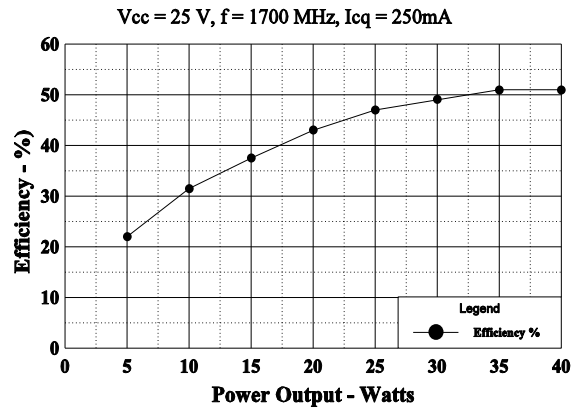
THIRD ORDER IMD vs POWER OUTPUT



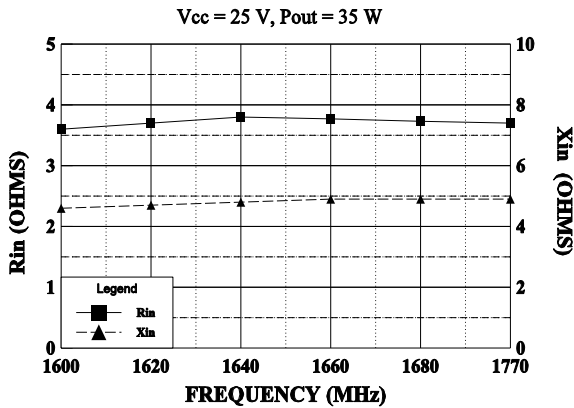
Power Output vs Power Input - PEP



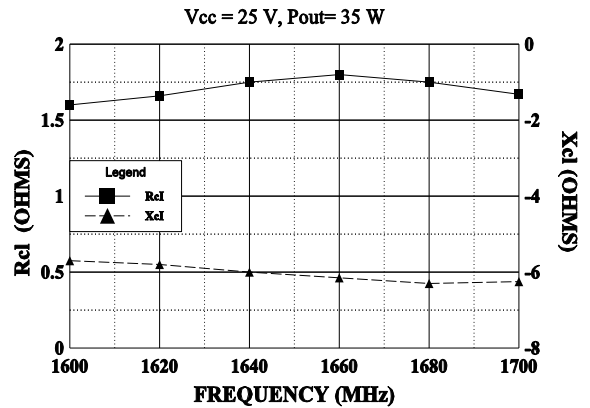
Collector Efficiency vs Power Out - PEP



INPUT IMPEDANCE

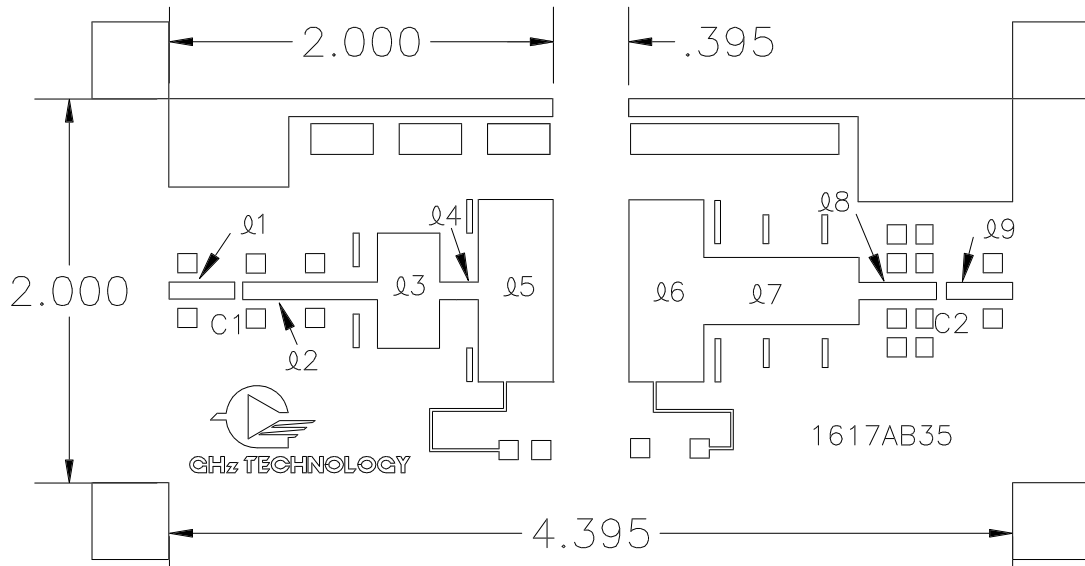


LOAD IMPEDANCE



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

—

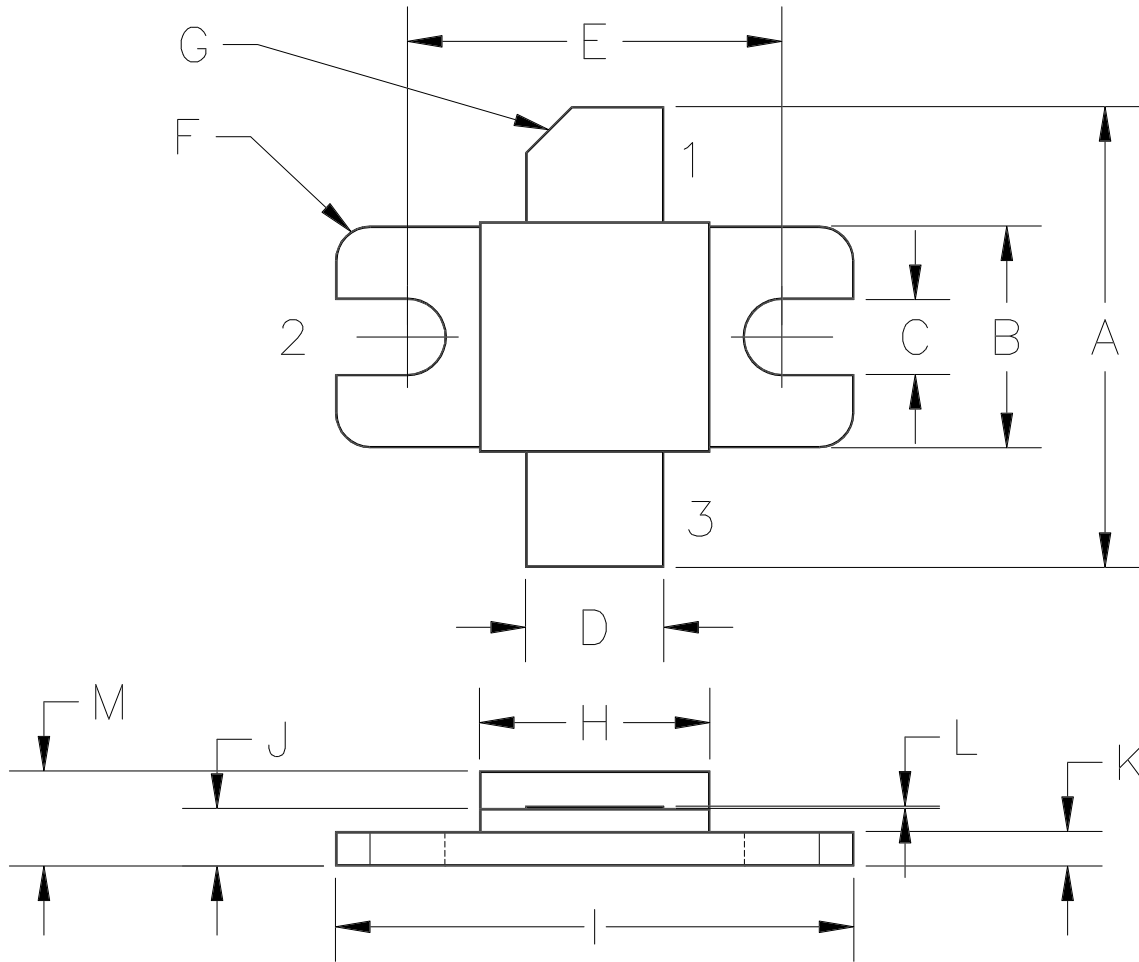
SCALE

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

