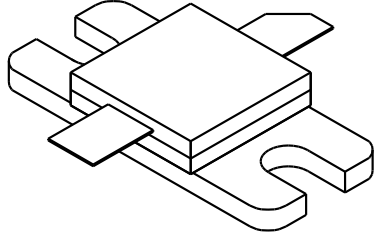


1617AB35

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: 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>Maximum Temperatures</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															
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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

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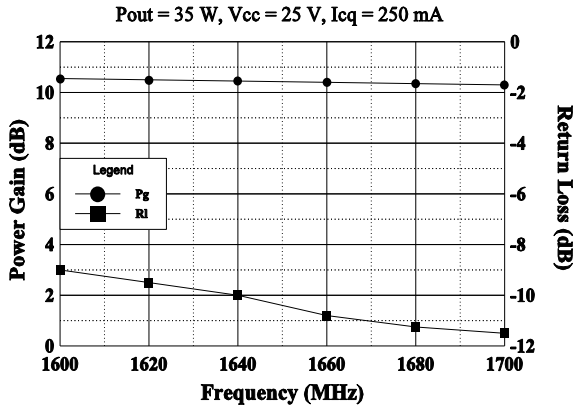


GHZ TECHNOLOGY
RF · MICROWAVE SILICON POWER TRANSISTORS

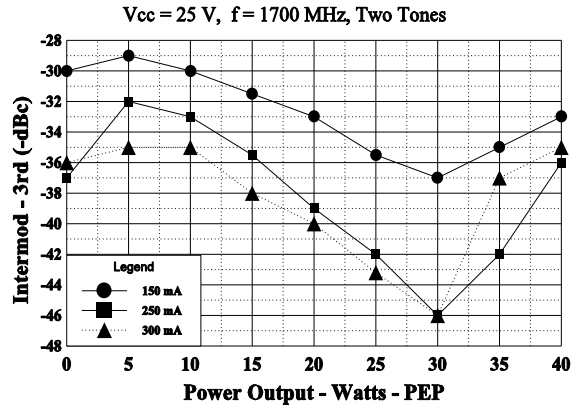
Typical Performance

1617AB35

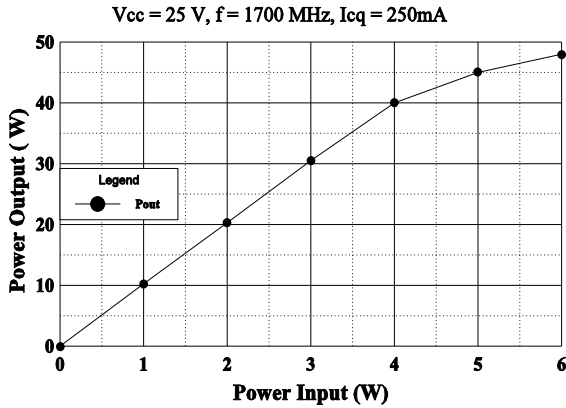
BROADBAND POWER GAIN & RETURN LOSS



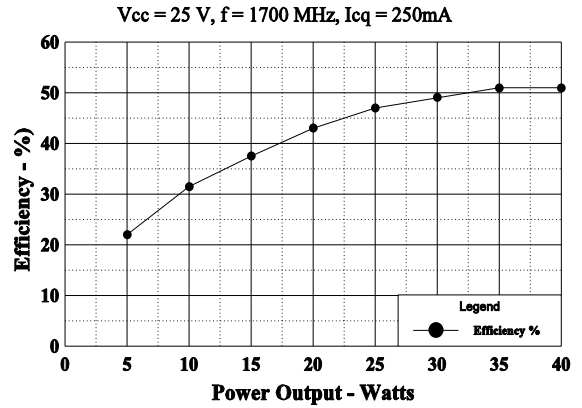
THIRD ORDER IMD vs POWER OUTPUT



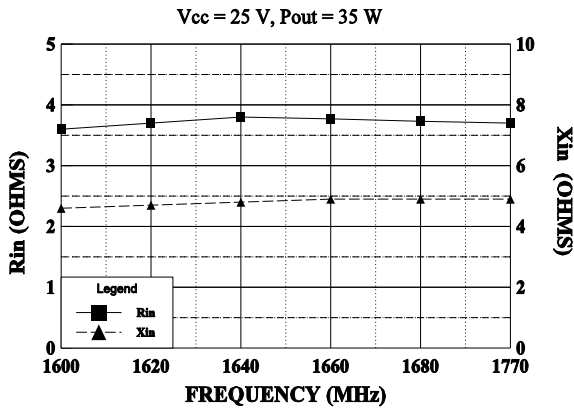
Power Output vs Power Input - PEP



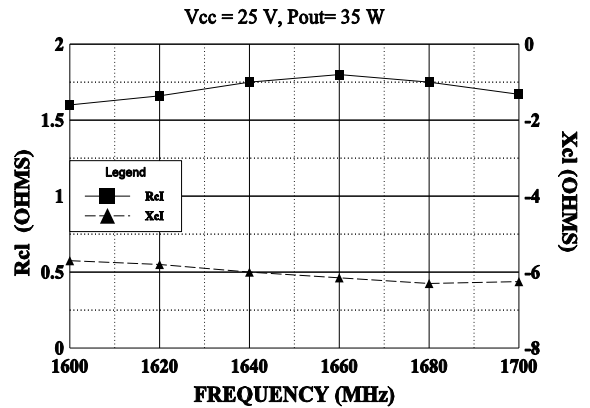
Collector Efficiency vs Power Out - PEP



INPUT IMPEDANCE

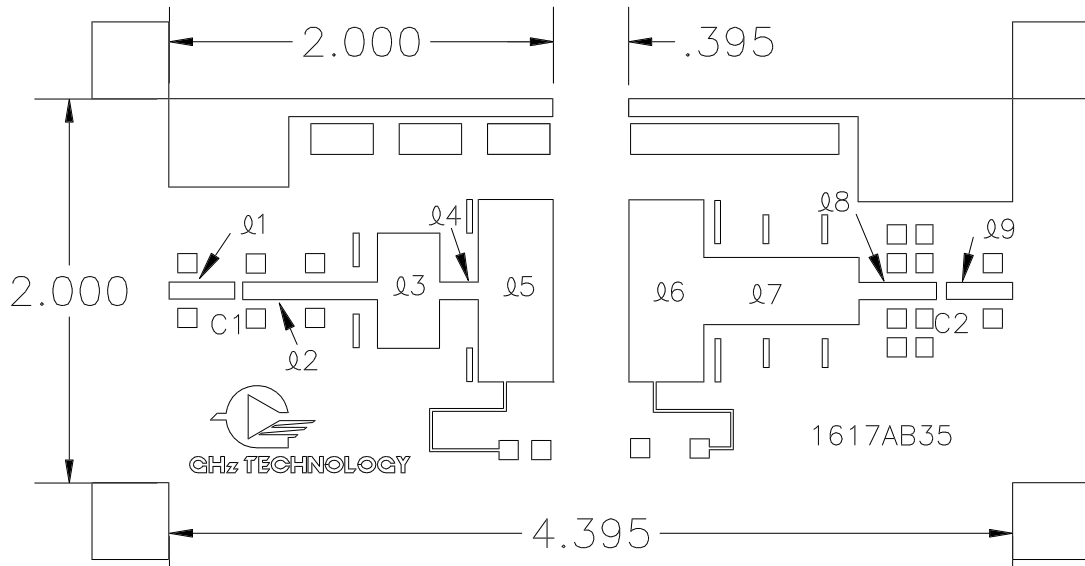


LOAD IMPEDANCE



REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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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

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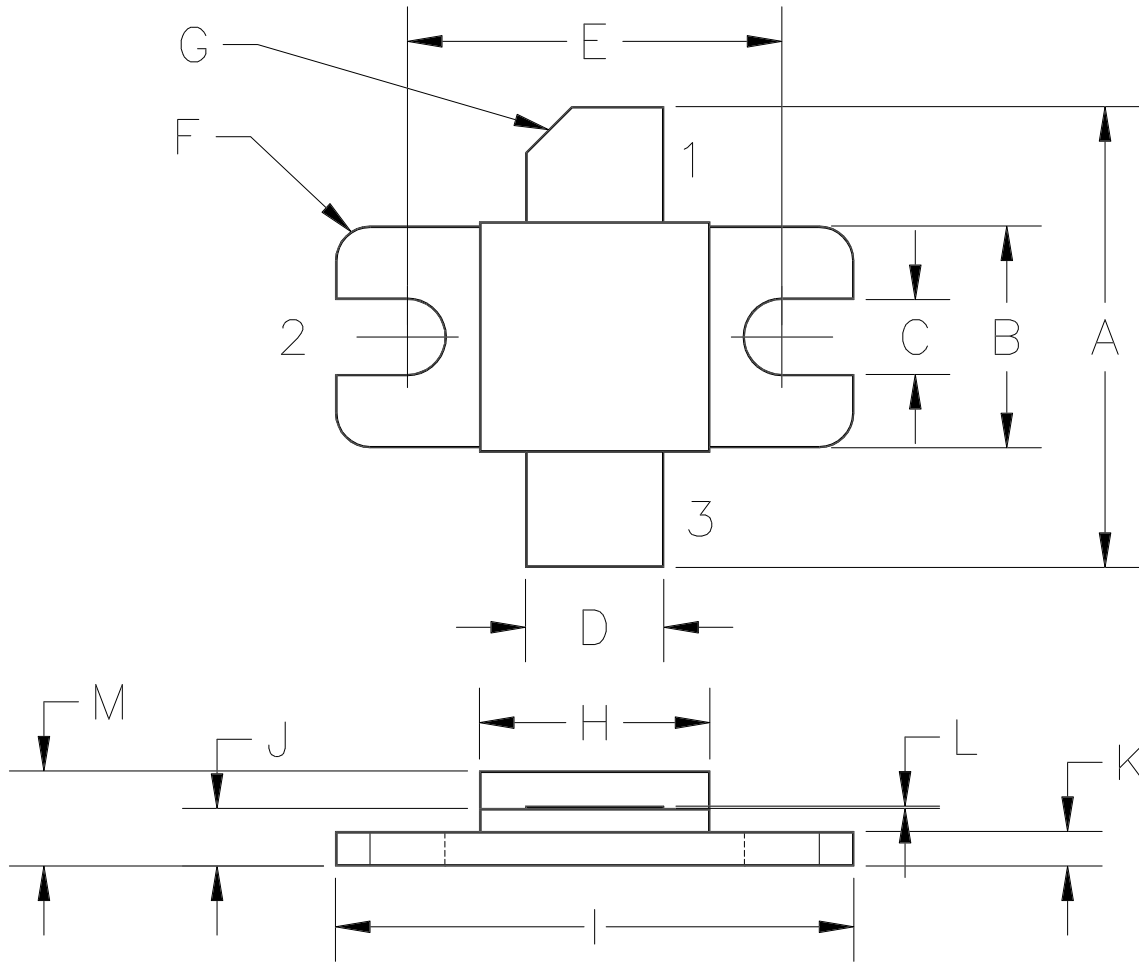
SCALE

1/1

SHEET

REVISIONS

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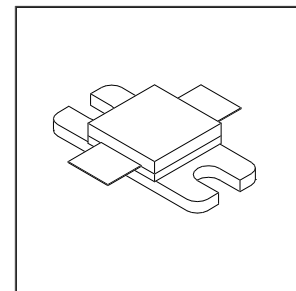
DIM	MILLIMETER	TOL	INCHES	TOL
A	20.32	.76	.800	.050
B	9.78	.13	.385	.005
C	3.30	.13	.130	.005
D	6.10	.13	.240	.005
E	16.51	.13	.650	.005
F	1.52 R	.13	.060 R	.005
G	45°	5°	45°	5°
H	10.16 SQ	.13	.400 SQ	.005
I	22.86	.13	.900	.005
J	2.54	.13	.100	.005
K	1.52	.13	.060	.005
L	.102	.02	.004	.001
M	4.19	.13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

STYLE 1:

- PIN 1 = COLLECTOR
- 2 = BASE
- 3 = EMITTER

STYLE 2:

- PIN 1 = COLLECTOR
- 2 = EMITTER
- 3 = BASE



CAGE
OPJR2

DWG NO.

55AR

REV

A

SCALE

3/1

SHEET