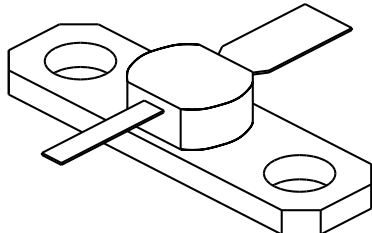


<p>GENERAL DESCRIPTION The 2005 is a COMMON BASE transistor capable of providing 5 Watts Class C, RF output power at 2000 MHz. Gold metalization and diffused ballasting are used to provide high reliability and supreme ruggedness. The transistor uses a fully hermetic High Temperature Solder Sealed package.</p>	<p>CASE OUTLINE 55BT-1, Style 1</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;">20 Watts</td> </tr> <tr> <td colspan="2">Maximum Voltage and Current</td> </tr> <tr> <td>BVces Collector to Emitter Voltage</td> <td style="text-align: right;">50 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;">1.0 A</td> </tr> <tr> <td colspan="2">Maximum Temperatures</td> </tr> <tr> <td>Storage Temperature</td> <td style="text-align: right;">- 65 to + 200°C</td> </tr> <tr> <td>Operating Junction Temperature</td> <td style="text-align: right;">+ 200°C</td> </tr> </table>	Maximum Power Dissipation @ 25°C	20 Watts	Maximum Voltage and Current		BVces Collector to Emitter Voltage	50 Volts	BVebo Emitter to Base Voltage	3.5 Volts	Ic Collector Current	1.0 A	Maximum Temperatures		Storage Temperature	- 65 to + 200°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	F = 2 GHz	5.0			Watt
Pin	Power Input	Vcb = 28 Volts			0.8	Watt
Pg	Power Gain	Po = 5.0 Watts	8.0	8.5		dB
η_c	Collector Efficiency	As Above		40		%
VSWR₁	Load Mismatch Tolerance	F = 2 GHz, Po = 5 W			30:1	

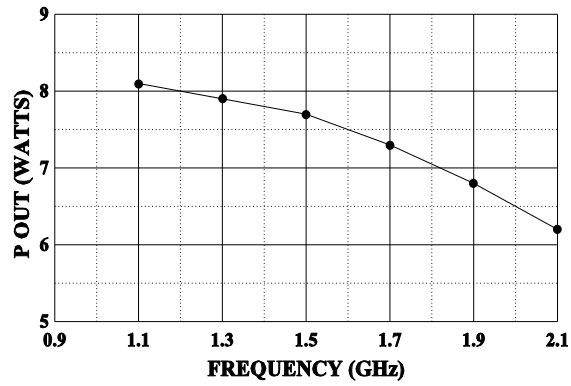
BVces	Collector to Emitter Breakdown	Ic = 20 mA	50			Volts
BVcbo	Collector to Base Breakdown	Ic = 2 mA	45			Volts
BVebo	Emitter to Base Breakdown	Ie = 2.0 mA	3.5			Volts
Icbo	Collector to Base Current	Vcb = 28 Volts			1.0	mA
h_{FE}	Current Gain	Vce = 5 V, Ic = 200 mA	20			
Cob	Output Capacitance	F = 1 MHz, Vcb = 28 V		7.5		pF
θ_{jc}	Thermal Resistance				8.5	°C/W

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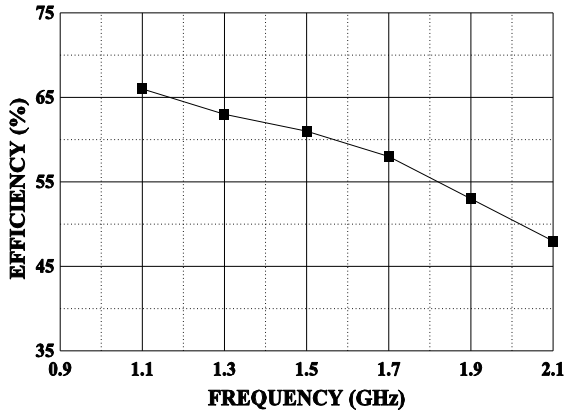
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POWER OUTPUT VS FREQUENCY

V_{cc}=28V, P_{in} = 0.8 Watts

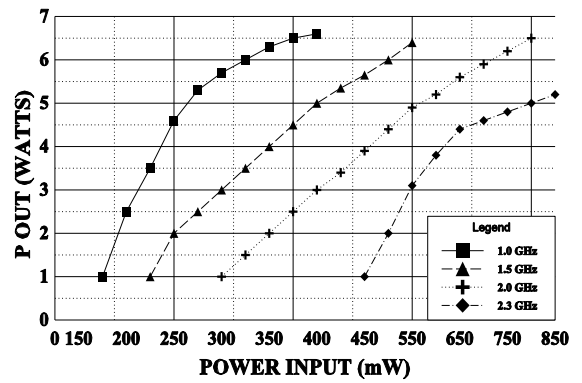


EFFICIENCY VS FREQUENCY



POWER OUTPUT VS POWER INPUT

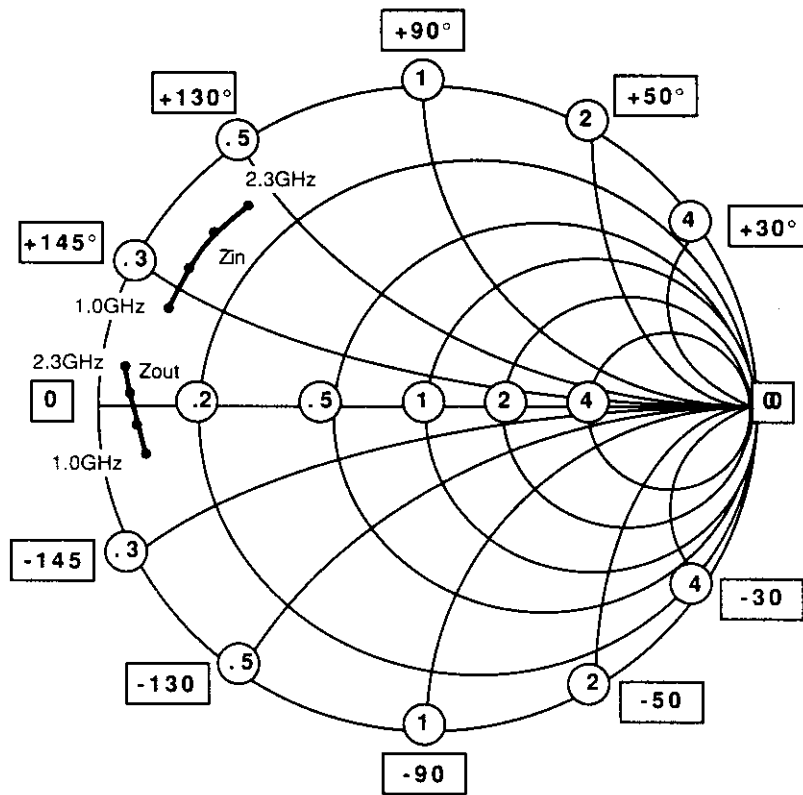
V_{cc}=28V



SMITH CHART

2005

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 50 OHM SYSTEM.