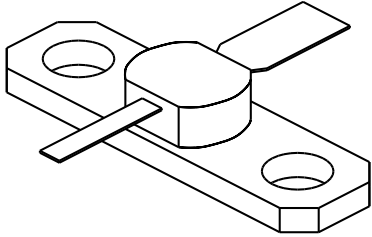


3005
5 Watts - 28 Volts, Class C
Microwave 3000 MHz

<p>GENERAL DESCRIPTION The 3005 is a COMMON BASE transistor capable of providing 5 Watts Class C, RF output power at 3000 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, 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;">25 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;">2.5 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	25 Watts	Maximum Voltage and Current		BVces Collector to Emitter Voltage	50 Volts	BVebo Emitter to Base Voltage	3.5 Volts	Ic Collector Current	2.5 A	Maximum Temperatures		Storage Temperature	- 65 to + 200°C	Operating Junction Temperature
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ELECTRICAL CHARACTERISTICS @ 25 °C

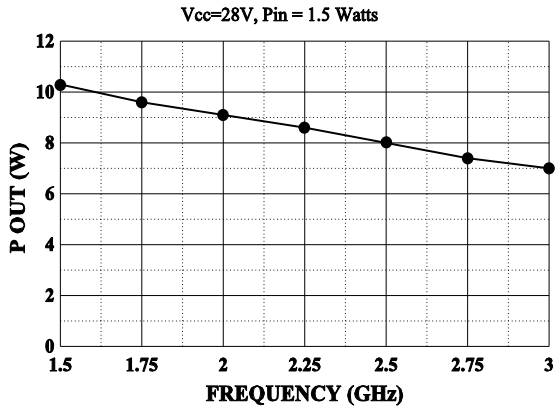
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out	F = 3000 MHz	5.0			Watt
P_{in}	Power Input	V _{cb} = 28 Volts			1.5	Watt
P_g	Power Gain	P _o = 5 Watts	5.2			dB
η_c	Collector Efficiency	As Above		30		%
VSWR₁	Load Mismatch Tolerance	F = 3 GHz, P _o = 5 W			20:1	

BVces	Collector to Emitter Breakdown	I _c = 10 mA	50			Volts
BVebo	Emitter to Base Breakdown	I _e = 10 mA	3.5			Volts
h_{FE}	Current Gain	V _{ce} = 5 V, I _c = 300 mA	20		120	
C_{ob}	Output Capacitance	F = 1 MHz, V _{cb} = 28 V				pF
θ_{jc}	Thermal Resistance				7.0	°C/W

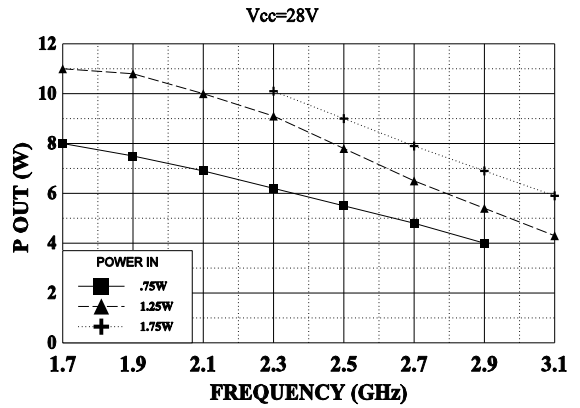
Issue August 1996

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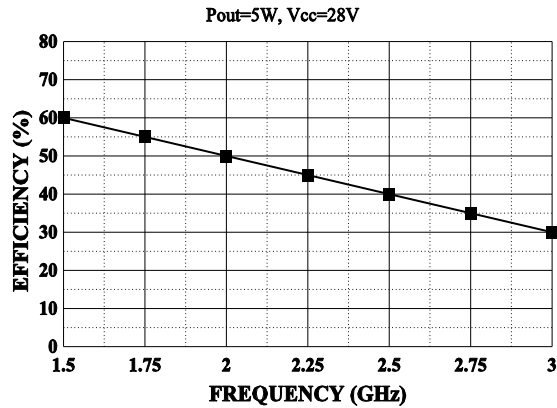
SATURATED P OUT VS FREQUENCY



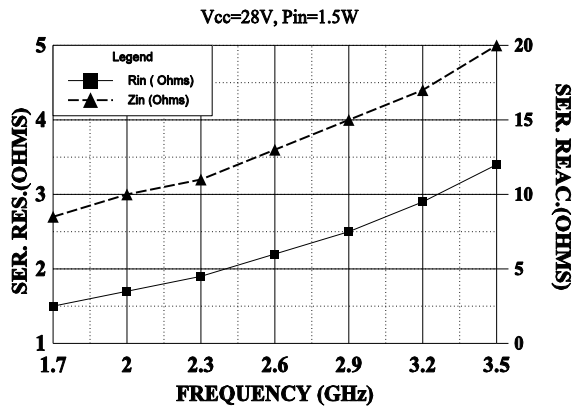
TYPICAL POWER OUTPUT VS FREQUENCY



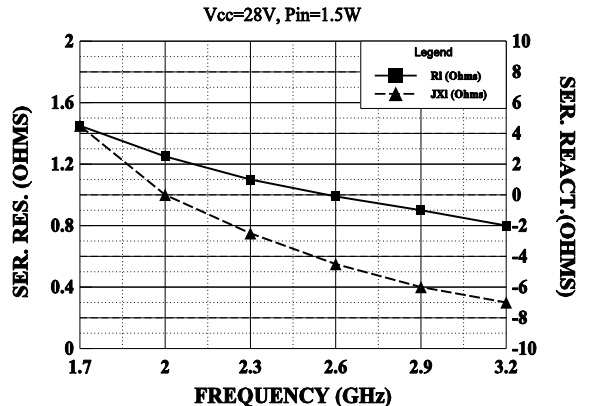
EFFICIENCY VS FREQUENCY



SERIES INPUT IMPEDANCE VS FREQUENCY



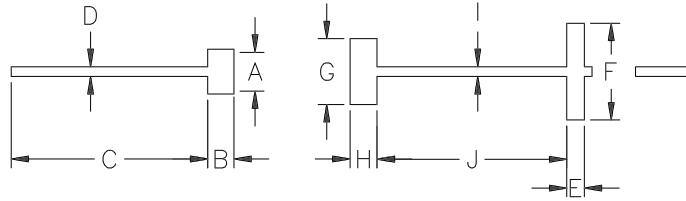
SERIES LOAD IMPEDANCE VS FREQUENCY



REVISIONS

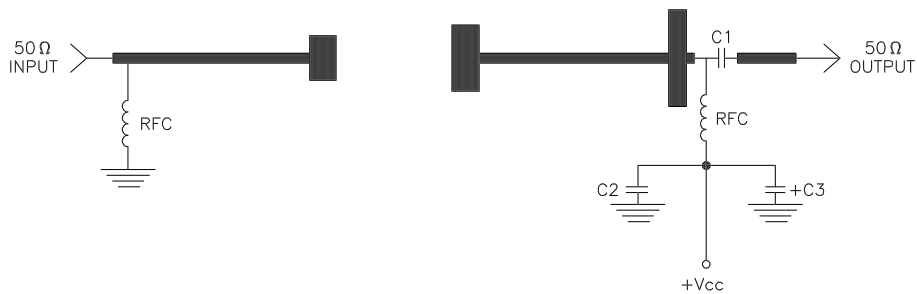
ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	.230
B	.135
C	.900
D	.050
E	.090
F	.160
G	.320
H	.140
I	.050
J	.160



3005 TEST AMPLIFIER

f = 3000 MHz



— = Microstrip on 0.020" Teflon Fiberglass, Er=2.55
 C1,C2 = ATC 'A' 47pf
 C3 = 10 Mfd @ 35 Volts