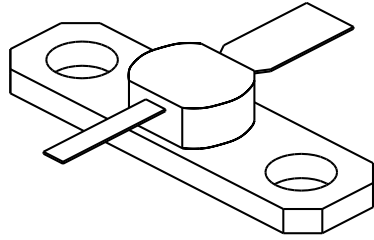


# 101/101A

1 Watt - 28 Volts, Class C  
Microwave, 500-1200 MHz

<p><b>GENERAL DESCRIPTION</b></p> <p>The 101/101A is a COMMON BASE transistor capable of providing 1 Watt Class C, RF output power at 500-1200 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><b>CASE OUTLINE</b> <b>55BT-1, Style 1</b></p> 													
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p>Maximum Power Dissipation @ 25°C <span style="float: right;">7.0 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;">50 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;">200 mA</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;">+ 200°C</td> </tr> </table>	BVces	Collector to Emitter Voltage	50 Volts	BVebo	Emitter to Base Voltage	3.5 Volts	Ic	Collector Current	200 mA	Storage Temperature	- 65 to + 150°C	Operating Junction Temperature	+ 200°C	
BVces	Collector to Emitter Voltage	50 Volts												
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Ic	Collector Current	200 mA												
Storage Temperature	- 65 to + 150°C													
Operating Junction Temperature	+ 200°C													

**ELECTRICAL CHARACTERISTICS @ 25 °C**

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
<b>Pout</b>	Power Out	F = 2 GHz	1.0			Watt
<b>Pin</b>	Power Input	Vcb = 28 Volts			0.125	Watt
<b>Pg</b>	Power Gain	Po = 1.0 Watts	9.0	9.5		dB
$\eta_c$	Collector Efficiency	As Above		40		%
<b>VSWR<sub>1</sub></b>	Load Mismatch Tolerance	F = 2 GHz, Po = 1.0 W			30:1	

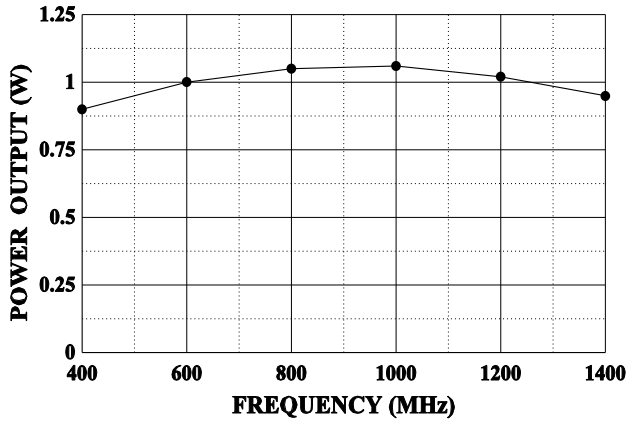
<b>BVces</b>	Collector to Emitter Breakdown	Ic = 10 mA	50			Volts
<b>BVcbo</b>	Collector to Base Breakdown	Ic = 1 mA	45			Volts
<b>BVebo</b>	Emitter to Base Breakdown	Ie = 1.0 mA	3.5			Volts
<b>Icbo</b>	Collector to Base Current	Vcb = 28 Volts			500	μA
<b>h<sub>FE</sub></b>	Current Gain	Vce = 5 V, Ic = 100 mA	20			
<b>Cob</b>	Output Capacitance	F = 1 MHz, Vcb = 28 V		4.0		pF
$\theta_{jc}$	Thermal Resistance				35	°C/W

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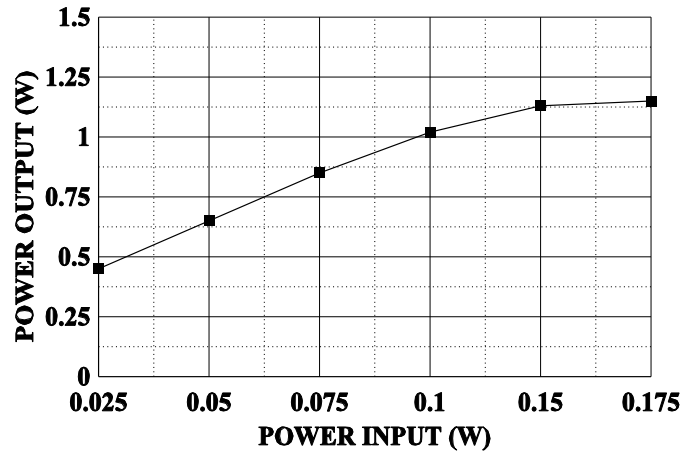
**POWER OUTPUT VS FREQUENCY**

V<sub>ce</sub>=28 Volts, f=1.0 GHz



**POWER OUTPUT VS POWER INPUT**

V<sub>ce</sub>=28 Volts, f=1.0 GHz



**DC SAFE OPERATING AREA**

