GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

101/101A

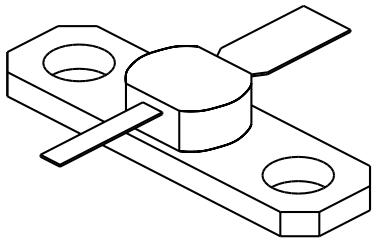
1 Watt - 28 Volts, Class C
Microwave, 500-1200 MHz

GENERAL DESCRIPTION

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.

CASE OUTLINE

55BT-1, Style 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C	7.0 Watts
Maximum Voltage and Current	
BVces Collector to Emitter Voltage	50 Volts
BVebo Emitter to Base Voltage	3.5 Volts
Ic Collector Current	200 mA
Maximum Temperatures	
Storage Temperature	- 65 to + 150°C
Operating Junction Temperature	+ 200°C

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 2 GHz	1.0			Watt
Pin	Power Input	Vcb = 28 Volts			0.125	Watt
Pg	Power Gain	Po = 1.0 Watts	9.0	9.5		dB
η_c	Collector Efficiency	As Above		40		%
VSWR$_1$	Load Mismatch Tolerance	F = 2 GHz, Po = 1.0 W			30:1	

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

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GHz Technology Inc. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 Tel. 408 / 986-8031 Fax 408 / 986-8120

CHz TECHNOLOGY
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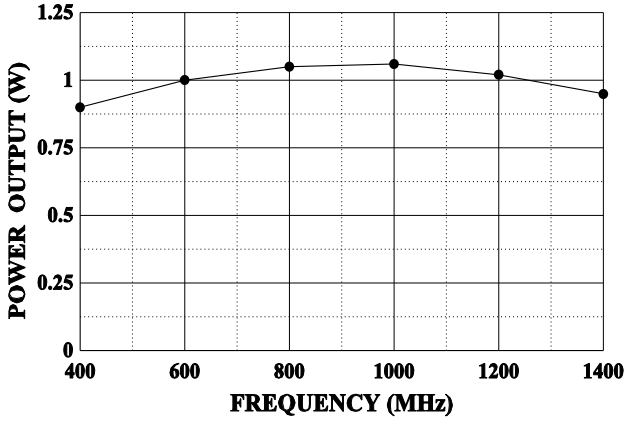
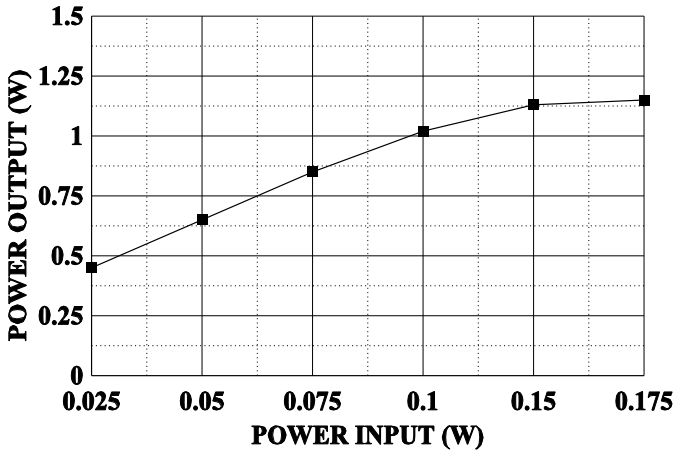
POWER OUTPUT VS FREQUENCY

Vce=28 Volts, f=1.0 GHz



POWER OUTPUT VS POWER INPUT

Vce=28 Volts, f=1.0 GHz



DC SAFE OPERATING AREA