GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

0510-10

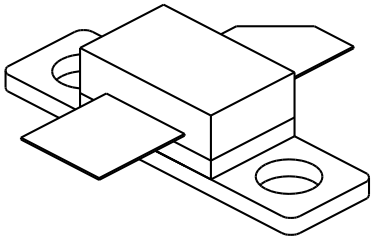
10 Watts, 28 Volts, Class AB
Milcom 500 - 1000 MHz

GENERAL DESCRIPTION

The 0510-10 is a double input matched COMMON EMITTER broadband transistor specifically intended for use in the 500-1000 MHz frequency band. It may be operated in Class AB or C. Gold metallization and silicon diffused resistors ensure ruggedness and high reliability.

CASE OUTLINE

55CT, Style 2



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC	30 Watts
Maximum Voltage and Current	
BVces Collector to Emiter Voltage	50 Volts
BVebo Emitter to Base Voltage	4.0 Volts
Ic Collector Current	1.0 A
Maximum Temperatures	
Storage Temperature	- 65 to +150ºC
Operating Junction Temperature	+200ºC

ELECTRICAL CHARACTERISTICS @ 25 ^{O}C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Output	F = 1000 MHz	10			Watts
Pin	Power Input	Vcc = 28 Volts		1.5		Watts
Pg	Power Gain				0.8	dB
ηc	Efficiency		50			%
VSWR	Load Mismatch Tolerance				3:1	

BVebo	Emitter to Base Breakdown	Ie = 5 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	Ic = 50 mA	50			Volts
BVceo	Collector to Emitter Breakdown	Ie = 50 mA	29			Volts
BVcbo	Collector to Base Breakdown	Ic = __ mA				Volts
Icbo	Collector to Base Current	Vc = __ Volts				mA
Cob	Output Capacitance	Vcb = 28 V, F = 1		11		pF
h_{FE}	DC - Current Gain	MHz	10			
θjc	Thermal Resistance	Vce = 5 V, Ic = 200 mA			60	ºC/W

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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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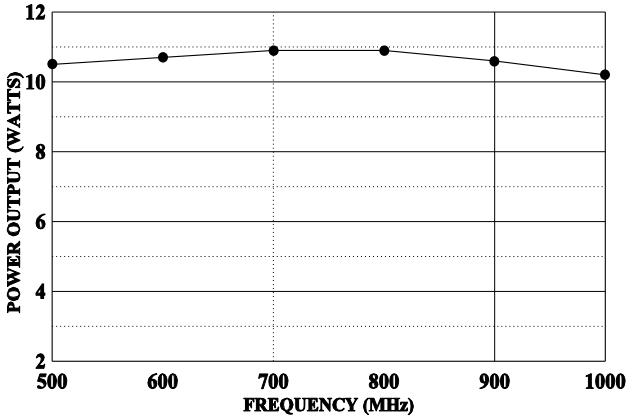
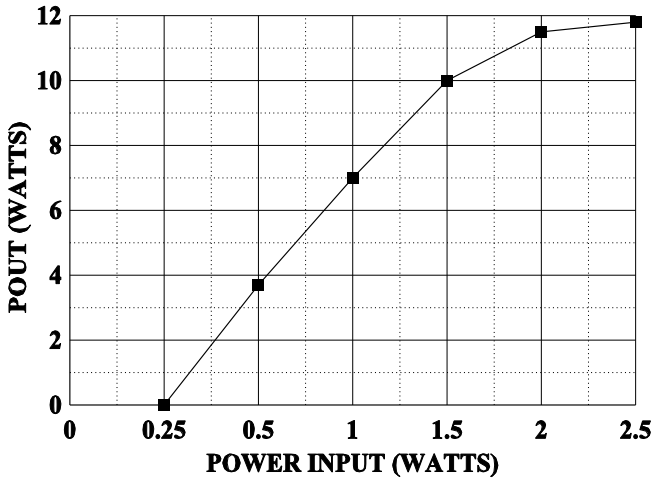
POWER OUTPUT VS FREQUENCY

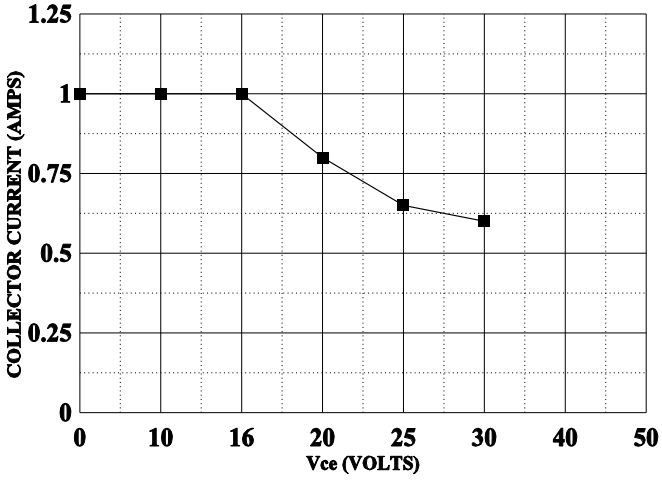
Pin=1.5W, Vcc=28V, Icq=10mA



POWER OUTPUT vs POWER INPUT



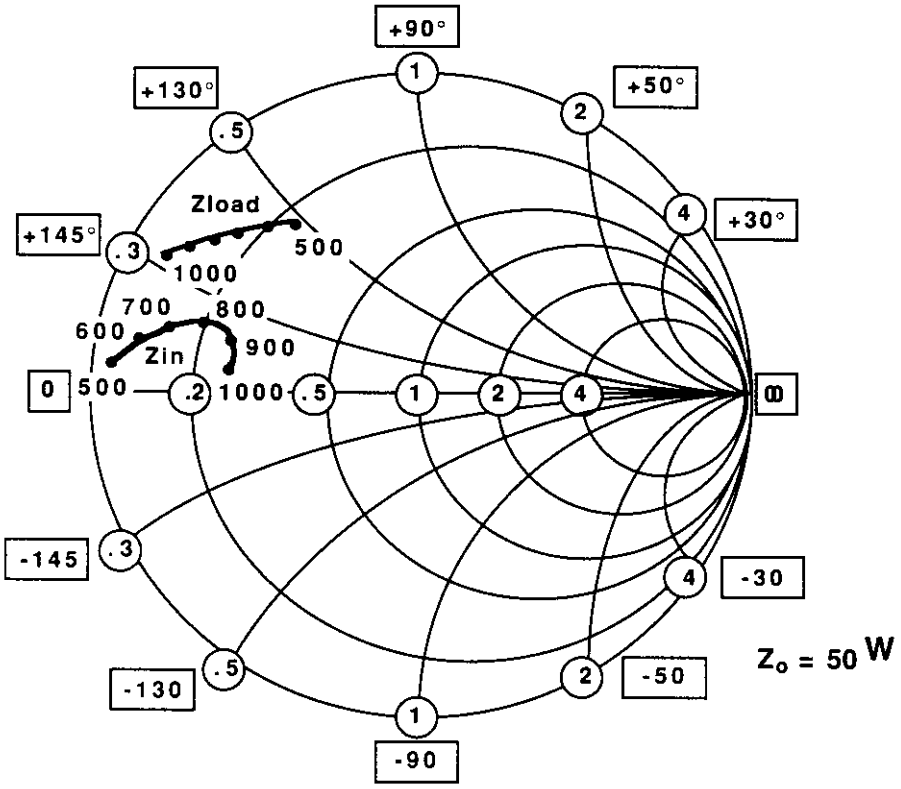
DC SAFE OPERATING AREA



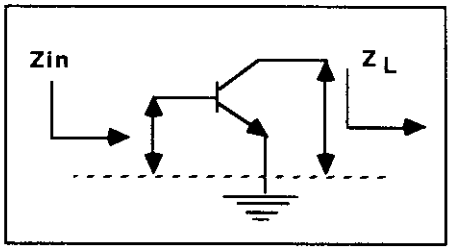
SMITH CHART

0510-10

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



Typical series input and output impedances at rated power output conditions for single side normalized to 50 ohms.



FREQUENCY MHz	Zin R	Zin JX	FREQUENCY MHz	Zload R	Zload JX
500	4.0	+3.8	500	13.2	+23.3
600	5.8	+4.9	600	11.8	+21.1
700	7.9	+5.8	700	10.0	+18.9
800	9.6	+5.5	800	8.5	+16.3
900	10.8	+4.8	900	7.0	+14.4
1000	10.6	+3.0	1000	5.2	+12.0