GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

C1-28/C1-28Z

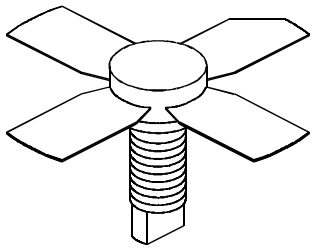
1 Watts - 28 Volts, Class C
Defcom 400 MHz

GENERAL DESCRIPTION

The C1-28 / Z is a COMMON EMITTER transistor capable of providing1 Watts of Class AB or C, RF output power in the band 100 - 400 MHz. This transistor is designed for Class AB or C amplifier applications. It utilizes Gold metalization and diffused ballasting to provide high reliability and supreme ruggedness. .

CASE OUTLINE

55FT, Style 2



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC 5.0 Watts

Maximum Voltage and Current

BVces	Collector to Emiter Voltage	60 Volts
BVebo	Emitter to Base Voltage	4.0 Volts
Ic	Collector Current	0.25 Amps

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 = 400 MHz	1			Watts
Pin	Power Input	Vcc = 28Volts			0.1	Watts
Pg	Power Gain		10	11		dB
η**c**	Efficiency			60		%
VSWR	Load Mismatch Tolerance				30:1	

Bvces	Collector to Base Breakdown	Ic = 5 mA	60			Volts
BVceo	Collector to Emitter Breakdown	Ic = 20 mA	33			Volts
BVebo	Emitter to Base Breakdown	Ie = 5 mA	4.0			Volts
Hfe	Current Gain	Vce = 5 V, Ic = 100mA	10		150	
Cob	Output Capacitance	Vcb = 28V, 1MHz		3.5		pF
θ**jc**	Thermal Resistance	Tc = 25 ºC			35	ºC/W

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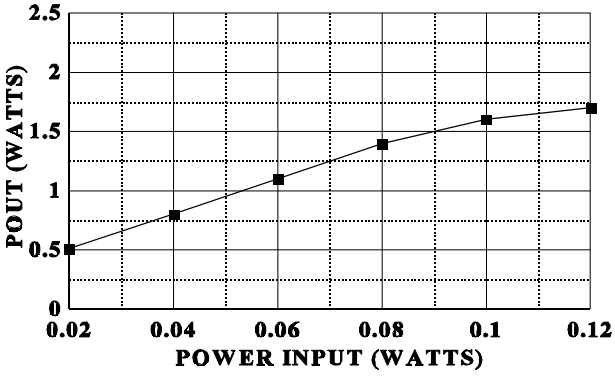
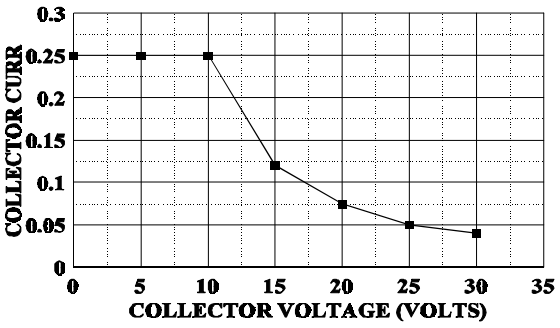
POWER OUTPUT vs POWER INPUT

Vcc= 28V f=400MHz



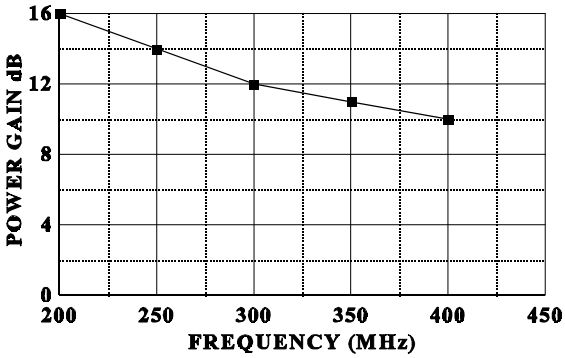
DC SAFE OPERATING AREA

TYPICAL



POWER GAIN vs FREQUENCY

TYPICAL



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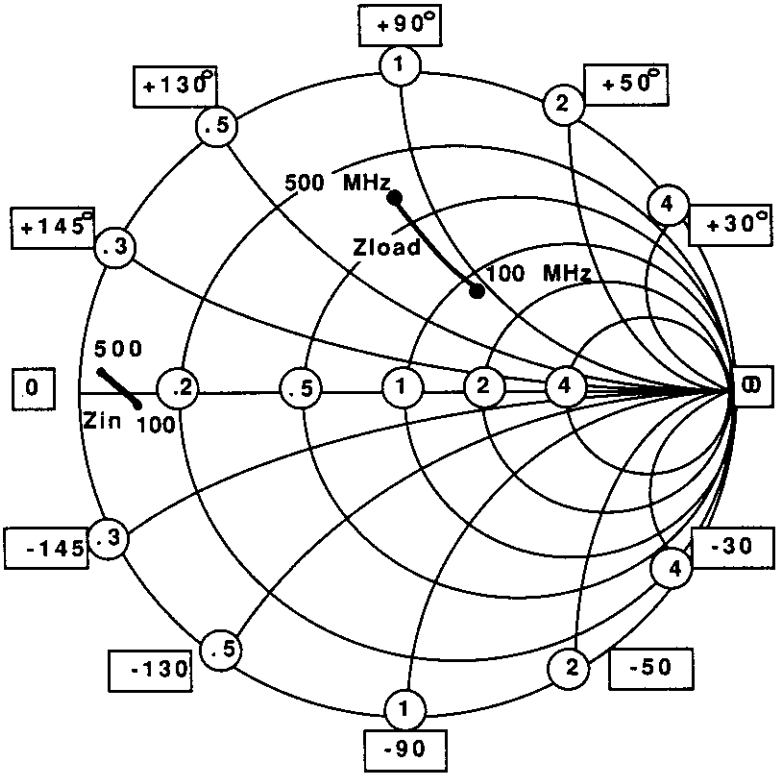
SMITH CHART
C1-28/C1-28Z

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 50 OHM SYSTEM.

FREQUENCY MHz	Zin R	Zin JX	FREQUENCY MHz	Zload R	Zload JX
100	5.1	-0.1	100	62	52
200	4.7	0.1	200	53	50
300	4.3	0.3	300	42	48
400	4.0	0.5	400	30	47
500	3.7	0.8	500	20	45