

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 providing 1 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..

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 5.0 Watts

Maximum Voltage and Current

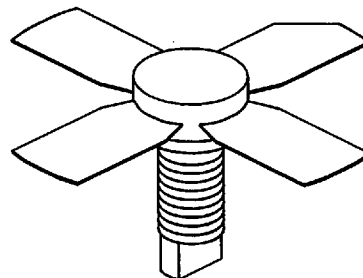
BVces Collector to Emitter Voltage 60 Volts
BVebo Emitter to Base Voltage 4.0 Volts
Ic Collector Current 0.25 Amps

Maximum Temperatures

Storage Temperature - 65 to +150°C
Operating Junction Temperature + 200°C

CASE OUTLINE

55FT, Style 2



ELECTRICAL CHARACTERISTICS @ 25 °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
ηc	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
θjc	Thermal Resistance	Tc = 25 °C			35	°C/W

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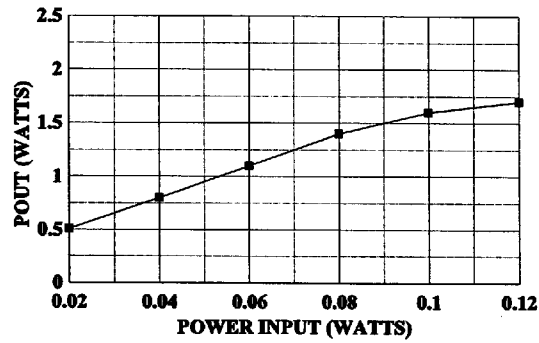
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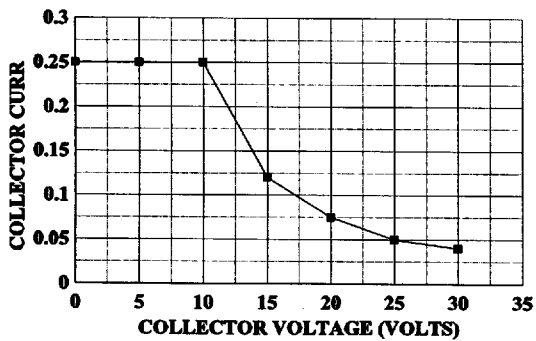
POWER OUTPUT vs POWER INPUT

$V_{CC} = 28V$ $f = 400MHz$



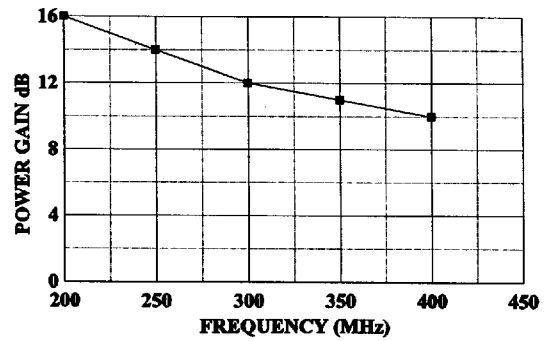
DC SAFE OPERATING AREA

TYPICAL



POWER GAIN vs FREQUENCY

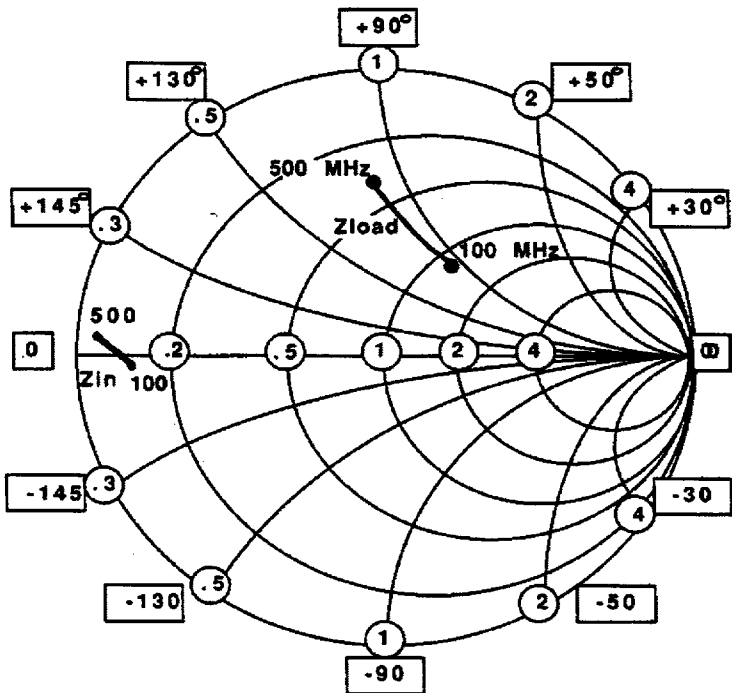
TYPICAL



August 1996

SMITH CHART
C1-28/C1-28Z

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 50 OHM SYSTEM.

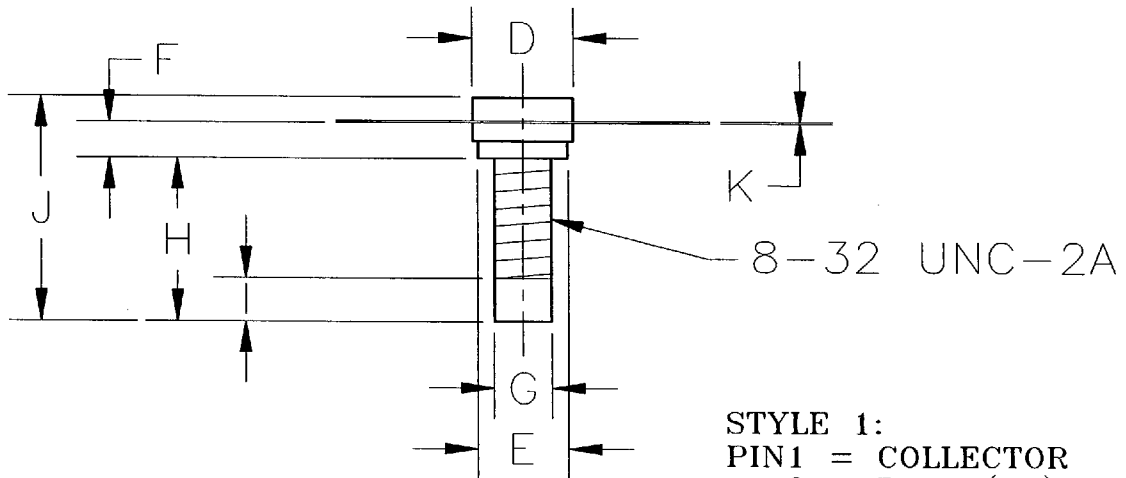
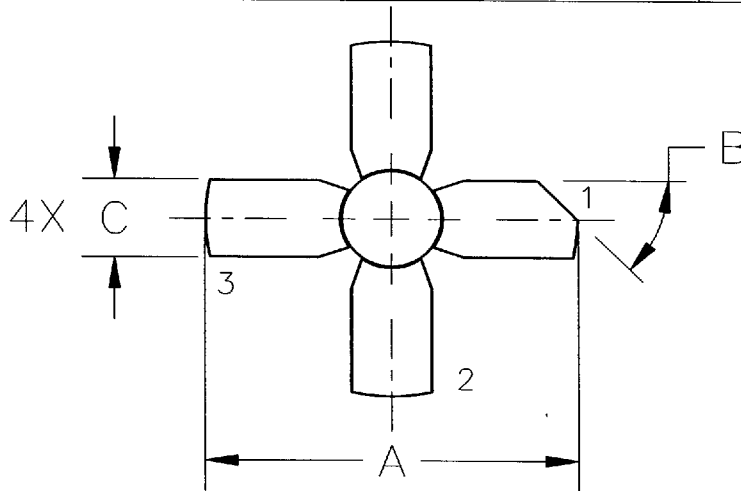
FREQUENCY MHz	R	Zin	JX	FREQUENCY MHz	R	Zload	JX
100	5.1	-0.1		100	62		52
200	4.7	0.1		200	53		50
300	4.3	0.3		300	42		48
400	4.0	0.5		400	30		47
500	3.7	0.8		500	20		45

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REVISIONS

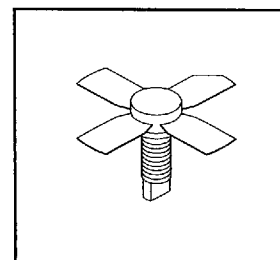
ZONE	REV	DESCRIPTION	DATE	APPROVED
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STYLE 1:
 PIN1 = COLLECTOR
 2 = BASE (2X)
 3 = EMITTER

STYLE 2:
 PIN1 = COLLECTOR
 2 = EMITTER (2X)
 3 = BASE

DIM	MILLIMETER	TOL	INCHES	TOL
A	26.16	.38	1.030	.015
B	45°	5°	45°	5°
C	5.71	.13	.225	.005
D	7.11 DIA	.13	.280 DIA	.005
E	6.35	.13	.250	.005
F	3.05	.13	.120	.005
G	2.92	.25	.115	.010
H	13.34	MAX	.525	MAX
I	3.30	.38	.130	.015
J	16.64	REF	.655	REF
K	0.13	.02	.005	.01



CHz TECHNOLOGY

CAGE
0PJR2

DWG NO.

55FT

REV

B

SCALE

2/1

SHEET

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