GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

2302

2.0 Watt - 20 Volts, Class C
Microwave 2300 MHz

GENERAL DESCRIPTION

The 2302 is a COMMON BASE transistor capable of providing 2 Watts Class C, RF output power at 2300 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.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC		7.0 Watts

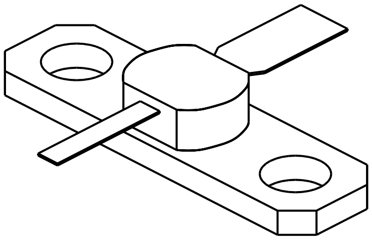
Maximum Voltage and Current

BVces	Collector to Emitter Voltage	45 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	0.5 Amps

Maximum Temperatures

Storage Temperature	- 65 to + 200ºC
Operating Junction Temperature	+ 200ºC

CASE OUTLINE
55 BT- Style 1



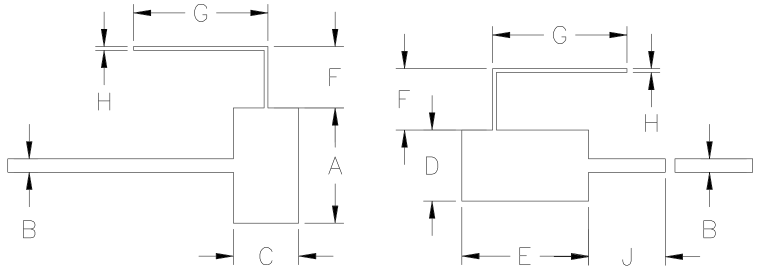
ELECTRICAL CHARACTERISTICS @ 25 ºC

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 2.3 GHz	2.0			Watt
Pin	Power Input	Vcb = 20 Volts			0.3	Watt
Pg	Power Gain	Po = 2.0Watts	8.0			dB
η_c	Collector Efficiency	As Above		40		%
VSWR$_1$	Load Mismatch Tolerance	F = 2.3 GHz, Po = 2.0W			20:1	

BVces	Collector to Emitter Breakdown	Ic = 10 mA	45			Volts
BVebo	Emitter to Base Breakdown	Ie = 1.0 mA	3.5			Volts
h_{FE}	Current Gain	Vce = 5 V, Ic = 100 mA	10			
Cob	Output Capacitance	F = 1.0 MHz, Vcb = 22 V		4.0		pF
θjc	Thermal Resistance				25	ºC/W

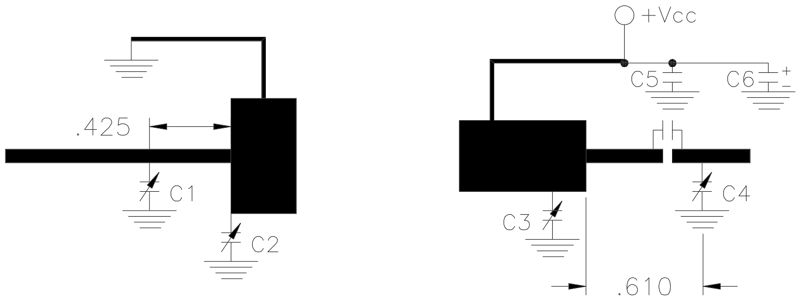
Initial Issue August 1994

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
A	.600
B	.070
C	.340
D	.370
E	.650
F	.320
G	.700
H	.020
J	.400

2302 TEST CIRCUIT



▬ MICROSTRIP t = 0.020"
C1,C2,C3,C4 = 0.3–3.5Pf
C5 = 0.1ufd
C6 = 4.7ufd 50V

GHz TECHNOLOGY	CAGE 0PJR2	DWG NO. 2302		REV —
		SCALE	1/1	SHEET