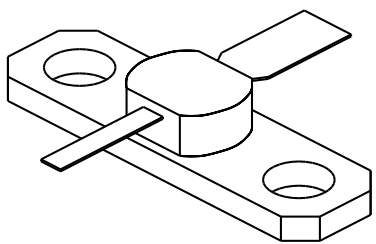

2302

2.0 Watt - 20 Volts, Class C
Microwave 2300 MHz

<p>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.</p>	<p>CASE OUTLINE 55 BT- Style 1</p> 													
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation @ 25°C 7.0 Watts</p> <p>Maximum Voltage and Current</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">BVces</td> <td style="width: 45%;">Collector to Emitter Voltage</td> <td style="width: 40%; text-align: right;">45 Volts</td> </tr> <tr> <td>BVebo</td> <td>Emitter to Base Voltage</td> <td style="text-align: right;">3.5 Volts</td> </tr> <tr> <td>Ic</td> <td>Collector Current</td> <td style="text-align: right;">0.5 Amps</td> </tr> </table> <p>Maximum Temperatures</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 45%;">Storage Temperature</td> <td style="text-align: right;">- 65 to + 200°C</td> </tr> <tr> <td>Operating Junction Temperature</td> <td style="text-align: right;">+ 200°C</td> </tr> </table>	BVces	Collector to Emitter Voltage	45 Volts	BVebo	Emitter to Base Voltage	3.5 Volts	Ic	Collector Current	0.5 Amps	Storage Temperature	- 65 to + 200°C	Operating Junction Temperature	+ 200°C	
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ELECTRICAL CHARACTERISTICS @ 25 °C

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	40		dB
η_c	Collector Efficiency	As Above				%
VSWR₁	Load Mismatch Tolerance	F = 2.3 GHz, Po = 2.0W			20:1	

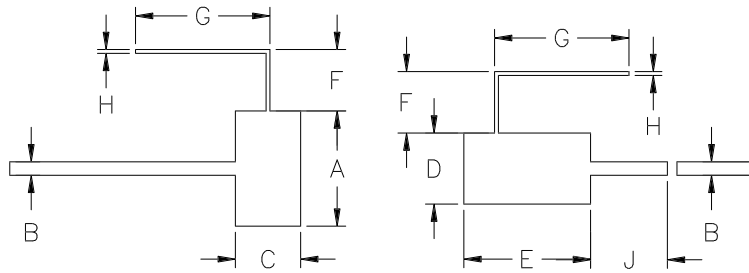
BVces	Collector to Emitter Breakdown	Ic = 10 mA	45			Volts
BVebo	Emitter to Base Breakdown	Ie = 1.0 mA	3.5			Volts
h_{FE}	Current Gain	Vce = 5 V, Ic = 100 mA	10			
Cob	Output Capacitance	F = 1.0 MHz, Vcb = 22 V		4.0		pF
θ_{jc}	Thermal Resistance				25	°C/W

Initial Issue August 1994

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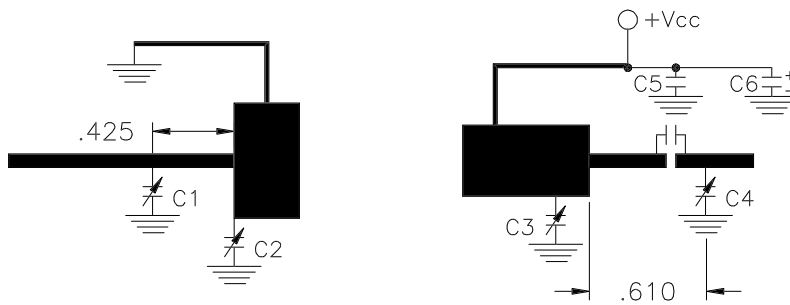
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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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