GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

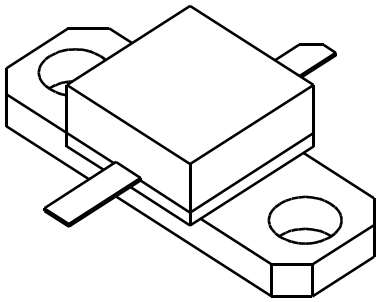
1014 - 2

2 Watt - 28 Volts, Class C
Microwave 1000 - 1400 MHz

GENERAL DESCRIPTION

The 1014-2 is a COMMON BASE transistor capable of providing 2 Watts of Class C, RF Output Power over the band 1000-1400 MHz. This transistor is designed for Microwave Broadband Class C amplifier applications. It includes Input prematching and utilizes gold metalization and diffused ballasting to provide high reliagility and supreme ruggedness.

CASE OUTLINE
55LT, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC	9.7 Watts
Maximum Voltage and Current	
BVces Collector to Emitter Voltage	50 Volts
BVebo Emitter to Base Voltage	3.5 Volts
Ic Collector Current	0.5 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 Out	F =1000-1400 MHz	2			Watt
Pin	Power Input	Vcb = 28 Volts			0.35	Watt
Pg	Power Gain		7.5			dB
η_c	Collector Efficiency	As Above		45		%
VSWR$_1$	Load Mismatch Tolerance	Pout = 2 Watts			10:1	

BVces	Collector to Emitter Breakdown	Ic = 20 mA	50			Volts
BVebo	Emitter to Base Breakdown	Ie = 5 mA	3.5			Volts
Icbo	Collector to Base Current	Vcb = 28 Volts			0.5	mA
h_{FE}	Current Gain	Vce = 28 V, Ic = 100 mA	10		100	
Cob	Output Capacitance	Vcb = 25 V, f = 1 MHz			4.5	pF
θjc	Thermal Resistance	Tc = 25ºC			18	ºC/W

Rev A, Feb 1997

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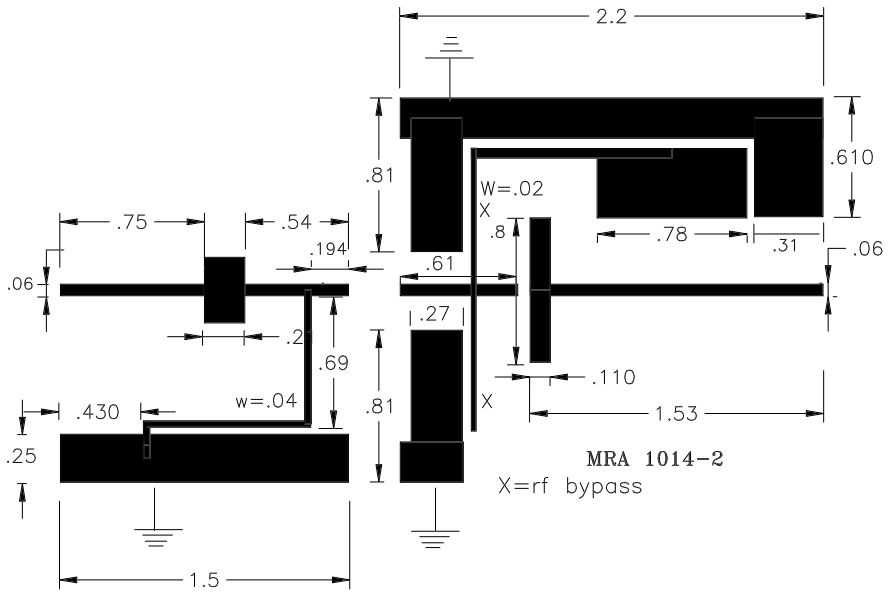
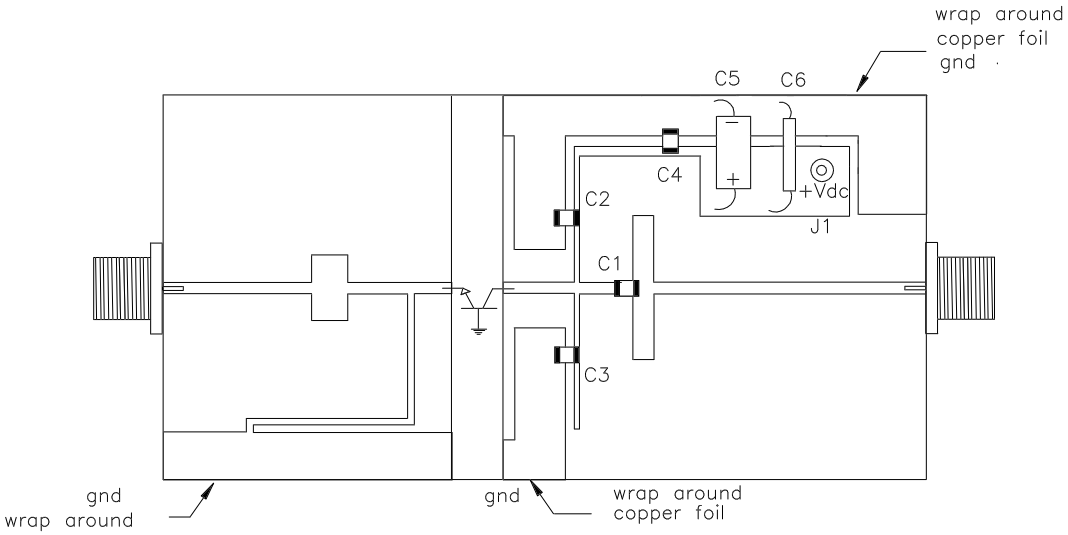
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



1014-2 TEST CIRCUIT



DIELECTRIC = 20 MIL THICK TFE, εr=2.55

C1= 32 pF, chip "TRW"
C2=150 pF, chip
C3=150 pF, chip
C4=150 pF, chip
C5=1.0 uF, electrolytic, 50v
C6=.01 uF, disc ceramic

CHz TECHNOLOGY	CAGE 0PJR2	DWG NO. 1014-2	REV 2
		SCALE 1/1	SHEET