GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

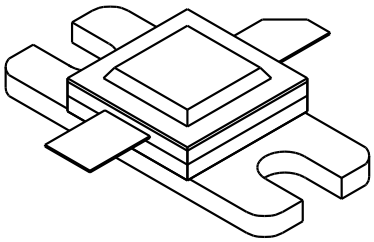
2324-20

20 Watts, 24 Volts, Class C
Microwave 2300-2400 MHz

GENERAL DESCRIPTION

The 2324-20 is a COMMON BASE transistor capable of providing 20 Watts of Class C, RF output power over the band 2300-2400 MHz. This transistor is specifically designed for Microwave Broadband Class C amplifier applications. It includes input and output pre matching and utilizes gold metalization and diffused ballasting to provide high reliability and supreme ruggedness. This transistor uses a fully hermetic High Temperature Solder Sealed package.

CASE OUTLINE
55AW, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC 58 Watts

Maximum Voltage and Current

BVces	Collector to Emitter Voltage	40 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	3.0 Amps

Maximum Temperatures

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

ELECTRICAL CHARACTERISTICS @ 25 ^{O}C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 2.3 - 2.4 GHz	20			Watts
Pin	Power Input	Vcc = 24 Volts			4.0	Watts
Pg	Power Gain		7.0			dB
ηc	Efficiency			40		%
VSWR	Load Mismatch Tolerance				10:1	

BVebo	Emitter to Base Breakdown	Ie = 25 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	I = 160 mA	40			Volts
Hfe	DC Current Gain	Vce = 5 V, Ic =160mA	10		100	
Cob	Capacitance*					pF
θjc	Thermal Resistance				3.0	ºC/W

* Not measurable due to internal prematch network

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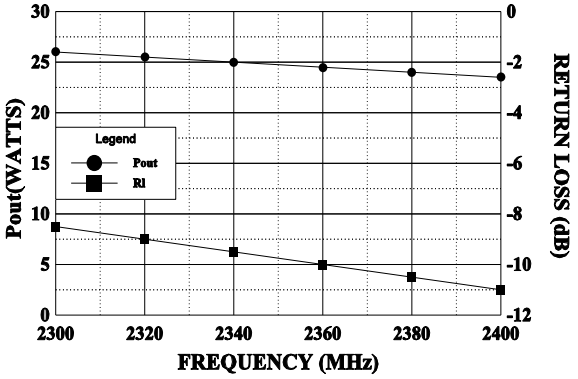
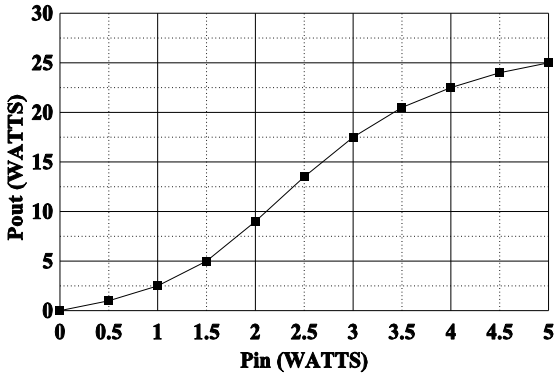
BROADBAND POWER OUTPUT & RETURN LOSS

Pin = 4 Watts, Vcc = 24 Volts



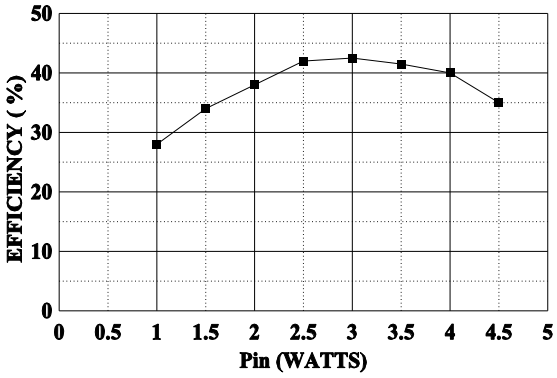
POWER OUTPUT vs POWER INPUT

Vcc - 24 Volts, F = 2400 MHz



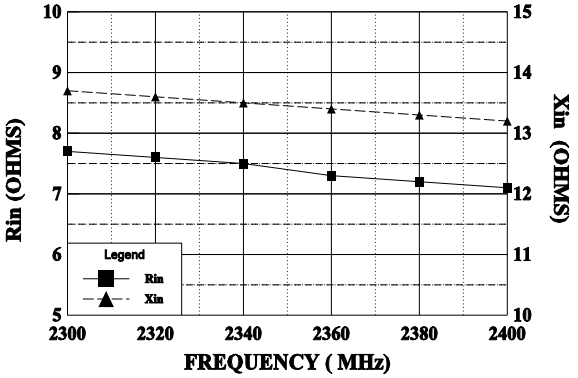
EFFICIENCY vs POWER IN

Vcc - 24 Volts, Freq = 2400 MHz



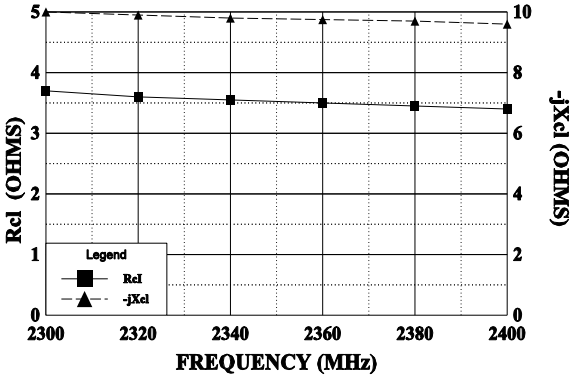
INPUT IMPEDANCE

Vcc = 24 V, Pin = 4.0 W



LOAD IMPEDANCE

Vcc = 24 V, Pin = 4 W



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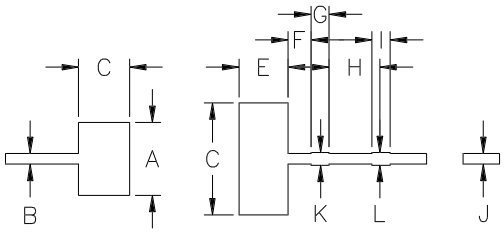
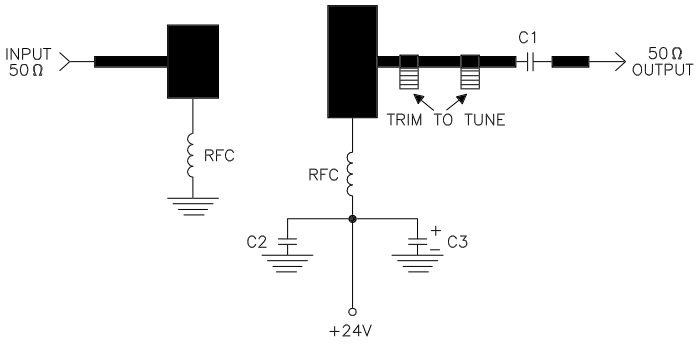
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
A	.400
B	.058
C	.280
D	.615
E	.270
F	.125
G	.100
H	.235
I	.100
J	.058
K	.070
L	.070

2324-20 TEST CIRCUIT



▬ = Microstrip on 0.0186" Teflon Fiberglass, Er=2.55
C1 = ATC 68pF B-CASE
C2 = ATC 68pF A-CASE
C3 = 1.0 MFD 35V
RFC = 4 turns #22 wire 1/16" I.D.

	CAGE	DWG NO.	REV
GHz TECHNOLOGY	0PJR2	2324-20	A
		SCALE 1/1	SHEET