



2224-12L

12 Watts, 22 Volts, Class C
Microwave 2200 - 2400 MHz

<p>GENERAL DESCRIPTION</p> <p>The 2224-12L is a Common Base transistor capable of providing 12 Watts Class C, RF Output Power over the band 2200-2400 MHz. The transistor includes double input and output prematching for full broadband capability. Gold Metalization and diffused ballasting are used to provide high reliability and supreme ruggedness.</p>	<p>CASE OUTLINE 55AW Style 1 COMMON BASE</p>
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation @ 25°C 44 Watts</p> <p>Maximum Voltage and Current</p> <p>Collector to Emitter Voltage (BV_{CES}) 45 V Emitter to Base Voltage (BV_{EBO}) 3 VCollector Current (I_c) 3.0 Amps</p> <p>Maximum Temperatures</p> <p>Storage Temperature -40 to +200 °C Operating Junction Temperature +200 °C</p>	

ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out	$F = 2200-2400$ MHz	12			W
P_{in}	Power Input	$V_{CC} = 22$ Volts			2.25	W
P_g	Power Gain		7.5			dB
η_c	Collector Efficiency			42		%
VSWR	Load Mismatch Tolerance	$P_{out} = 12$ Watts Pk	9:1			

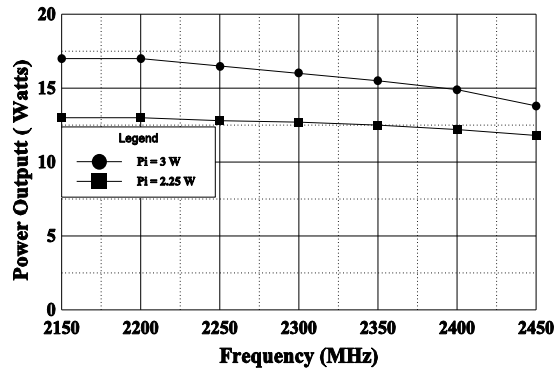
FUNCTIONAL CHARACTERISTICS @ 25°C

BV_{CES}	Collector to Base Breakdown	$I_c = 50$ mA	45			V
BV_{EBO}	Emitter to Base Breakdown	$I_e = 10$ mA	3.0			V
h_{FE}	DC – Current Gain	$V_{ce} = 5V, I_c = 1A$	15		100	
C_{OB}	Output Capacitance*	$V_{cb} = 28v, F = 1MHz$				
θ_{jc}	Thermal Resistance	$T_c = 25^\circ C$			4.0	°C/W

*Not measureable due to internal prematch network

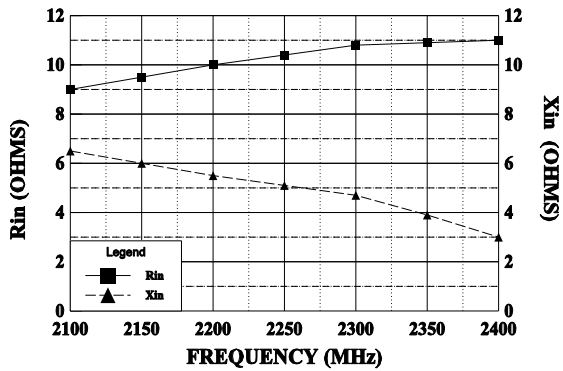
BROADBAND POWER OUTPUT (Typical)

Vcc = 22 Volts



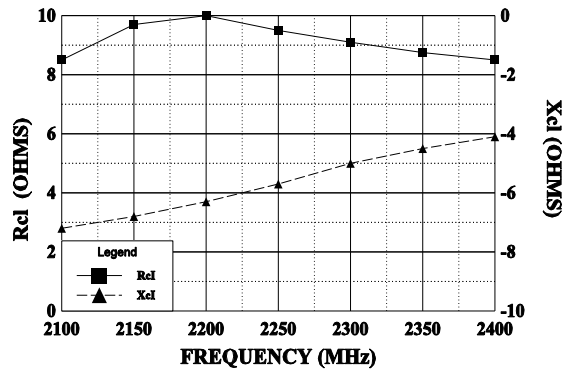
INPUT IMPEDANCE

Vcc = 22V, Pin = 2.4 W



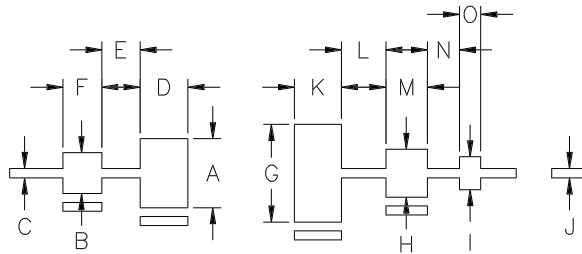
COLLECTOR LOAD IMPEDANCE

Vcc = 22 V, Pin = 2.4 W



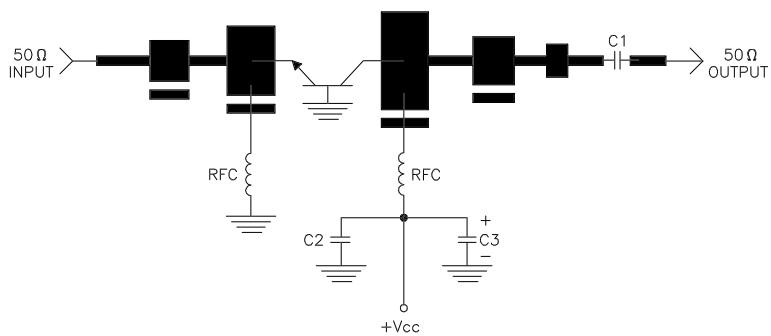
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	.390
B	.230
C	.054
D	.270
E	.215
F	.220
G	.550
H	.270
I	.185
J	.054
K	.265
L	.250
M	.235
N	.180
O	.120

2224-12L TEST CIRCUIT



DIELECTRIC = 20 MIL THICK TFE Er = 2.55
 C1, C2 = 62pF CHIP ATC "B"
 C3 = 10 MFD @ 35V
 RFC = 4 turns #22 wire 1/16" I.D.



CAGE OPJR2	DWG NO. 2224-12L	REV A
SCALE 1/1	SHEET	