

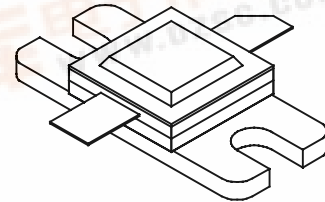
2124-12L

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

GENERAL DESCRIPTION

The 2124-12L 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.

CASE OUTLINE 55AW Style 1 COMMON BASE



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C

44 Watts

Maximum Voltage and Current

Collector to Emitter Voltage (V_{CES})

45 V

Emitter to Base Voltage (V_{EBO})

3

Collector Current (I_c)

3.0 Amps

Maximum Temperatures

Storage Temperature

-65 to +200 °C

Operating Junction Temperature

+200 °C

ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out	$F = 2100-2400 \text{ MHz}$	12			W
P_{in}	Power Input	$V_{CC} = 22 \text{ Volts}$			2.25	W
P_g	Power Gain		7.5			dB
η_c	Collector Efficiency			42		%
VSWR	Load Mismatch Tolerance	$P_{out} = 12 \text{ Watts Pk}$	9:1			

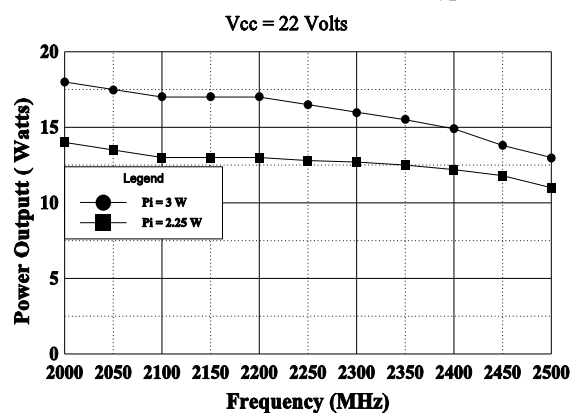
FUNCTIONAL CHARACTERISTICS @ 25°C

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

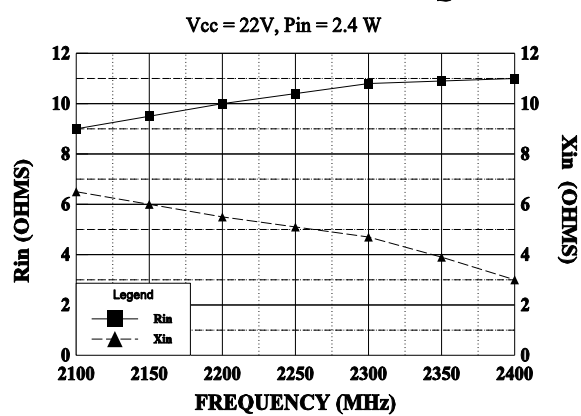
*Not measureable due to internal prematch network



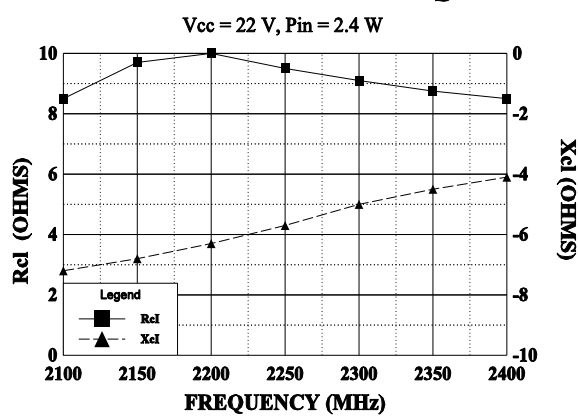
BROADBAND POWER OUTPUT (Typical)



SERIES INPUT IMPEDANCE vs FREQUENCY

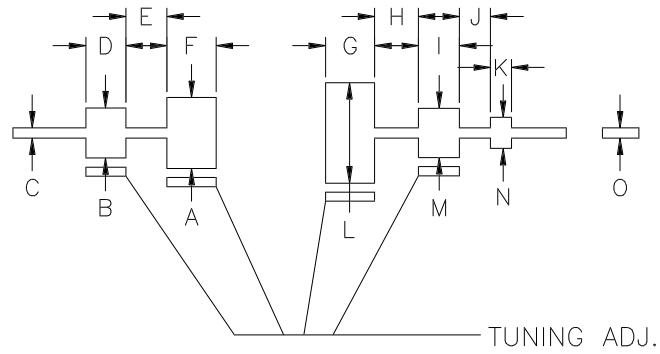


SERIES LOAD IMPEDANCE vs FREQUENCY



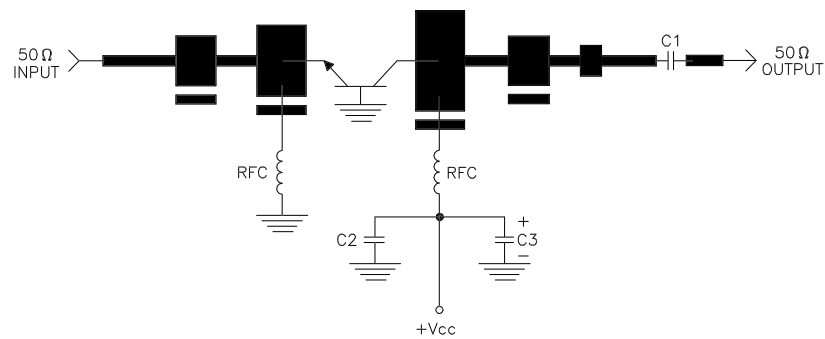
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	.390
B	.275
C	.056
D	.220
E	.225
F	.270
G	.270
H	.240
I	.225
J	.170
K	.115
L	.550
M	.270
N	.170
O	.056

2124-12L TEST CIRCUIT



DIELECTRIC = 20 MIL THICK TFE Er = 2.43
 C1, C2 = 62pF CHIP ATC "B"
 C3 = 10 MFD @ 35V
 RFC = 4 turns #22 wire 1/16" I.D.