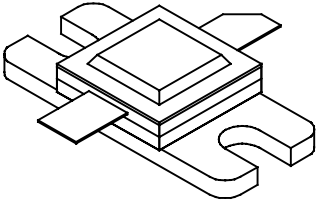




## 2124-12L

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

<p><b>GENERAL DESCRIPTION</b></p> <p>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.</p>	<p><b>CASE OUTLINE</b> <b>55AW Style 1</b> <b>COMMON BASE</b></p> 
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p><b>Maximum Power Dissipation @ 25°C</b> <span style="float: right;">44 Watts</span></p> <p><b>Maximum Voltage and Current</b></p> <p>Collector to Emitter Voltage (<math>BV_{CES}</math>) <span style="float: right;">45 V</span>          Emitter to Base Voltage (<math>BV_{EBO}</math>) <span style="float: right;">3</span>          VCollector Current (<math>I_C</math>) <span style="float: right;">3.0 Amps</span></p> <p><b>Maximum Temperatures</b></p> <p>Storage Temperature <span style="float: right;">-65 to +200 °C</span>          Operating Junction Temperature <span style="float: right;">+200 °C</span></p>	

### ELECTRICAL CHARACTERISTICS @ 25°C

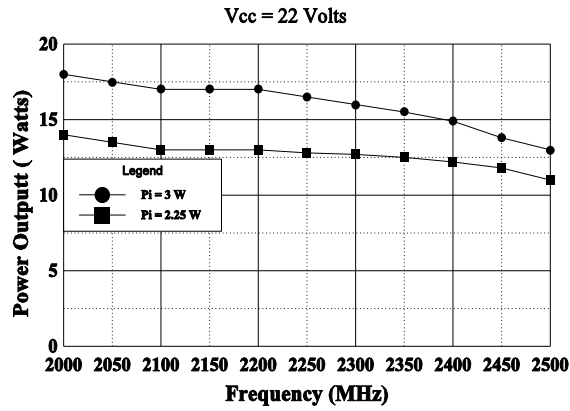
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$P_{out}$	Power Out	F = 2100-2400 MHz	12			W
$P_{in}$	Power Input	$V_{CC} = 22$ Volts			2.25	W
$P_g$	Power Gain		7.5			dB
$\eta_c$	Collector Efficiency			42		%
VSWR	Load Mismatch Tolerance	$P_{out} = 12$ Watts Pk	9:1			

### FUNCTIONAL CHARACTERISTICS @ 25°C

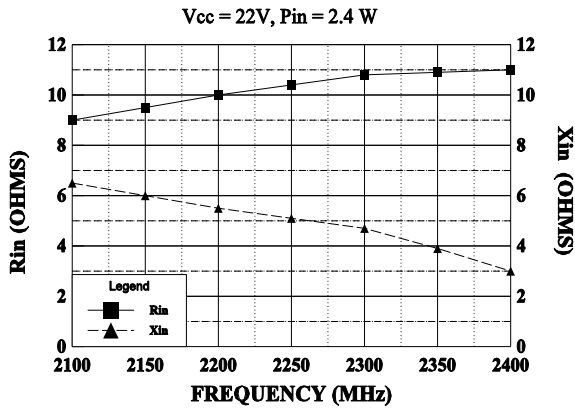
$BV_{CES}$	Collector to Base Breakdown	$I_c = 50$ mA	45			V
$BV_{EBO}$	Emitter to Base Breakdown	$I_e = 10$ mA	3.0			V
$h_{FE}$	DC – Current Gain	$V_{ce} = 5V, I_c = 1A$	15			
$C_{OB}$	Output Capacitance*	$V_{cb} = 28v, F = 1MHz$				pF
$\theta_{jc}$	Thermal Resistance	$T_c = 25^\circ C$			4.0	°C/W

\*Not measurable due to internal prematch network

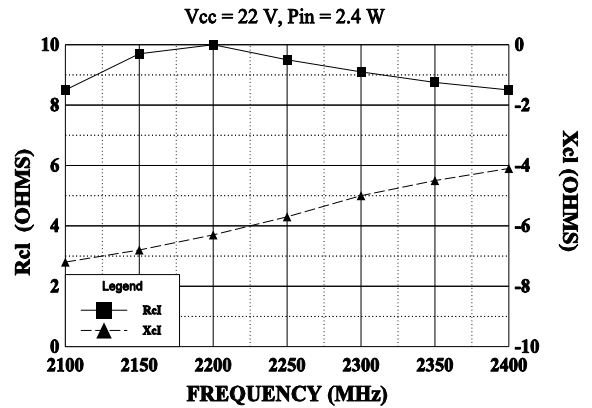
**BROADBAND POWER OUTPUT (Typical)**



**SERIES INPUT IMPEDANCE vs FREQUENCY**

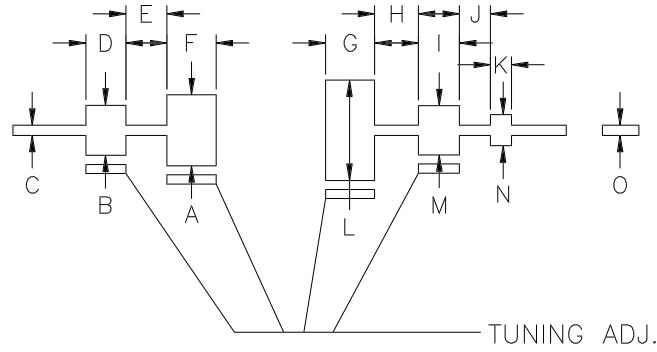


**SERIES LOAD IMPEDANCE vs FREQUENCY**



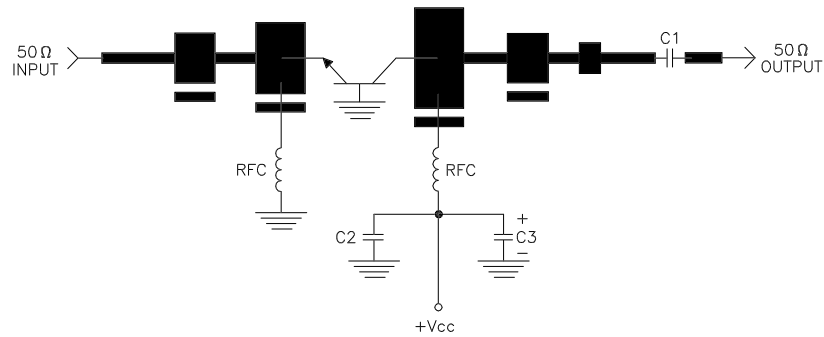
REVISIONS

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.



CAGE OPJR2	DWG NO. 2124-12L	REV A
SCALE 1/1	SHEET	