

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

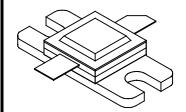
Maximum Power Dissipation @ 25°C 44 Watts

Maximum Voltage and Current

 $\begin{array}{ll} \mbox{Collector to Emitter Voltage (BV_{CES})} & 45 \ \mbox{V} \\ \mbox{Emitter to Base Voltage (BV_{EBO})} & 3 \\ \mbox{VCollector Current (<math>I_c$)} & 3.0 \ \mbox{Amps} \\ \end{array}

Maximum Temperatures

Storage Temperature $-65 \text{ to } +200 \text{ }^{\circ}\text{C}$ Operating Junction Temperature $+200 \text{ }^{\circ}\text{C}$



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	$V_{CC} = 22 \text{ Volts}$			2.25	W
P_{g}	Power Gain		7.5			dB
$\eta_{\rm c}$	Collector Efficiency			42		%
VSWR	Load Mismatch Tolerance	Pout = 12 Watts Pk	9:1			

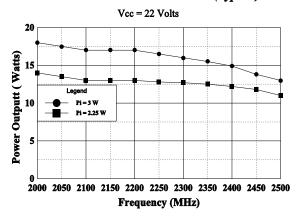
FUNCTIONAL CHARACTERISTICS @ 25°C

BV _{CES}	Collector to Base Breakdown	Ic = 50 mA	45		V
$\mathrm{BV}_{\mathrm{EBO}}$	Emitter to Base Breakdown	Ie = 10 mA	3.0		V
h_{FE}	DC – Current Gain	Vce = 5V, $Ic = 1A$	15		
C_{OB}	Output Capacitance*	Vcb = 28v, F = 1MHz			pF
θјс	Thermal Resistance	$Tc = 25^{\circ}C$		4.0	°C/W

^{*}Not measureable due to internal prematch network



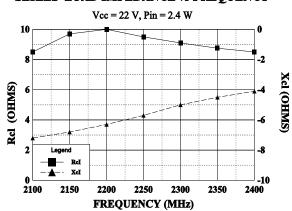
BROADBAND POWER OUTPUT (Typical)



SERIES INPUT IMPEDANCE vs FREQUENCY

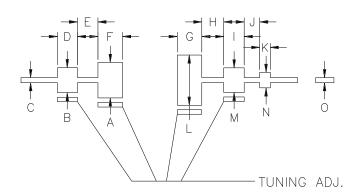
Vcc = 22V, Pin = 2.4 W12 10 10 Xin (OHMS) Rin (OHMS) 2 2 0 L 2100 2150 2250 2300 2350 2400 2200 FREQUENCY (MHz)

SERIES LOAD IMPEDANCE vs FREQUENCY



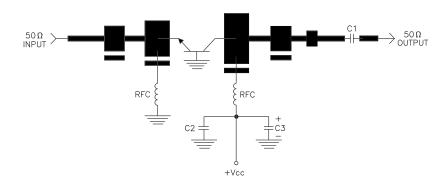
August 1996

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
Α	.390
В	.275
С	.056
D	.220
Е	.225
F	.270
G	.270
Н	.240
	.225
J	.170
K	.115
L	.550
М	.270
N	.170
0	.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 PJR2	DWG NO.	2124-12L		REV A
	SCALE	1/1	SHEET	