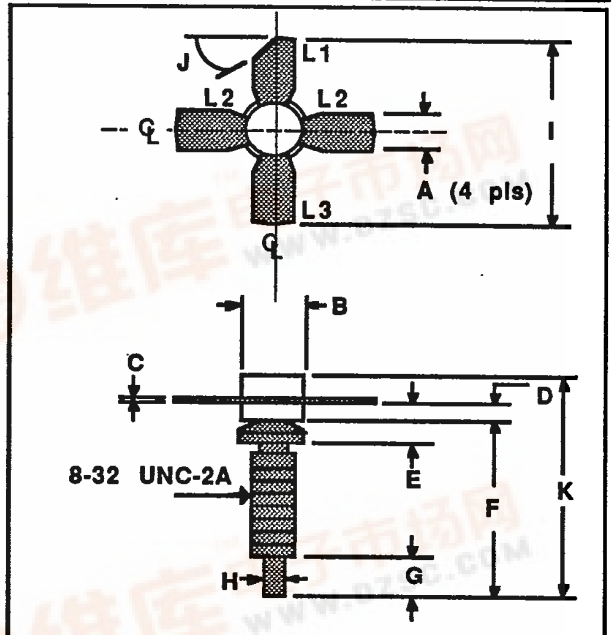


**GENERAL DESCRIPTION**

The B3-12 is specifically designed for VHF land mobile operation providing 3 watts of RF power output from a 12 volt supply and operating over the frequency band of 150-175 MHz.

**B3-12**  
**3 WATTS - 12 VOLTS**  
**150-175 MHz**

**LAND MOBILE**



**ABSOLUTE MAXIMUM RATINGS**

Maximum Power Dissipation @ 25°C Case Temperature 10 W

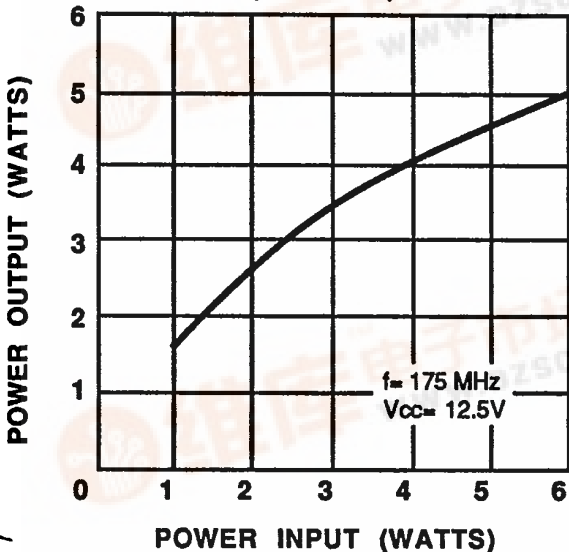
**Maximum Voltage and Current**

BVces	Collector to Emitter Voltage	36 V
BVebo	Emitter to Base Voltage	4.0 V
Ic	Collector Current	1.0 A

**Maximum Temperatures**

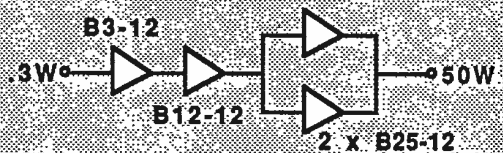
Storage Temperature	-65 to +150°C
Operating Junction Temperature	+200°C

**POWER OUTPUT VS POWER INPUT (TYPICAL)**



DIM	Millimeter	TOL	Inches	TOL
L1 : C	A	.13	.225	.005
L2 : E	B	.13	.375 DIA	.005
L3 : B	C	.02	.005	.001
	D	.13	.070	.005
	E	.13	.160	.005
	F	.25	.585	.010
	G	.13	.130	.005
	H	.13	.060	.005
	I	.25	1.000	.010
	J	5°	45°	5°
	K	REF	.748	REF

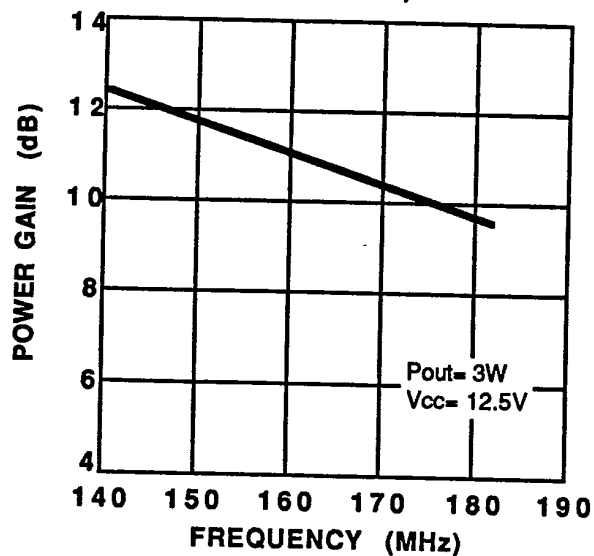
**TYPICAL AMPLIFIER LINE UP**  
 Vcc = 12.5 Volts  
 Frequency Range = 175 MHz



B3-12-2

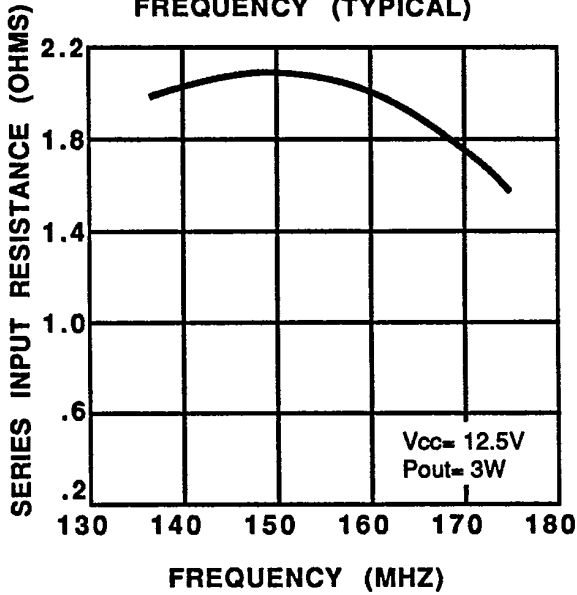
ELECTRICAL CHARACTERISTICS<sup>1</sup>

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P <sub>out</sub>	Power Output	f = 175 MHz V <sub>cc</sub> = 12.5V	3.0			Watts
P <sub>in</sub>	Power Input				0.3	Watts
P <sub>g</sub>	Power Gain			11		dB
η <sub>c</sub>	Collector Efficiency			60		%
VSWR	Load Mismatch Tolerance					∞:1
BV <sub>ebo</sub>	Breakdown Voltage (Emitter to Base)	I <sub>c</sub> = 0A, I <sub>e</sub> = 5mA	4.0			Volts
BV <sub>ces</sub>	Breakdown Voltage (Collector to Emitter)	V <sub>be</sub> = 0A, I <sub>c</sub> = 5mA	36			Volts
BV <sub>ceo</sub>	Breakdown Voltage (Collector to Emitter)	I <sub>b</sub> = 0A, I <sub>c</sub> = 50mA	18			Volts
C <sub>ob</sub>	Capacitance- Collector to Base	V <sub>cb</sub> = 12V, I <sub>e</sub> = 0			15	pF
h <sub>FE</sub>	DC-Current Gain		10			
θ <sub>jc</sub>	Thermal Resistance				17.5	°C/W

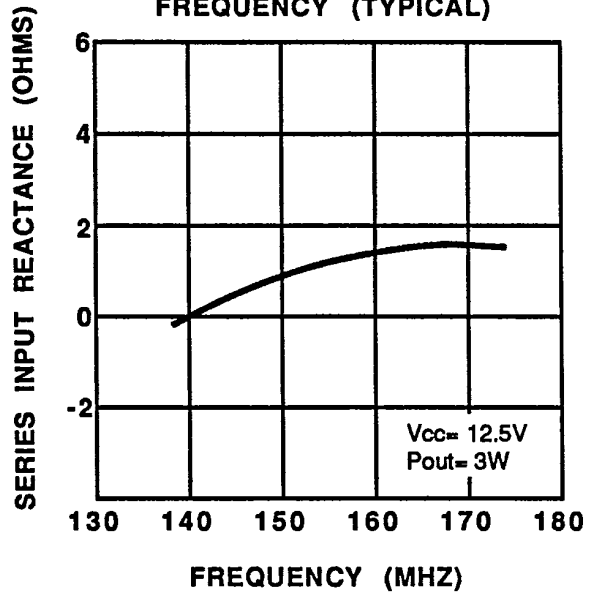
Note 1: T<sub>c</sub> = +25°C unless otherwise specifiedPOWER GAIN VS FREQUENCY  
(TYPICAL)

B3-12-3

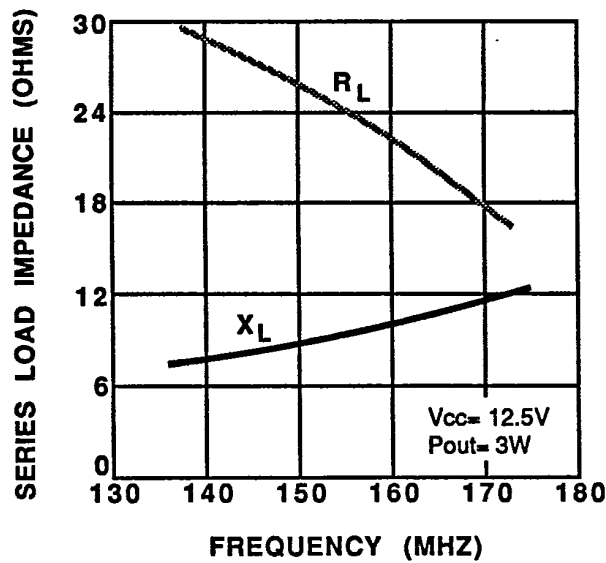
SERIES INPUT RESISTANCE VS FREQUENCY (TYPICAL)



SERIES INPUT REACTANCE VS FREQUENCY (TYPICAL)



SERIES LOAD IMPEDANCE VS FREQUENCY (TYPICAL)



**B3-12-4**

### B3-12 TEST AMPLIFIER 175 MHz

