

**GENERAL DESCRIPTION**

The S100-12 is designed for common emitter HF, SSB applications from a 12 volt supply. It may be operated Class A, AB or C. The device has emitter ballasting for ruggedness and reliability.

**S100-12**  
**100 WATTS - 12.5 VOLTS**  
**1.5-30 MHz**

**HF COMMUNICATIONS**

**ABSOLUTE MAXIMUM RATINGS**

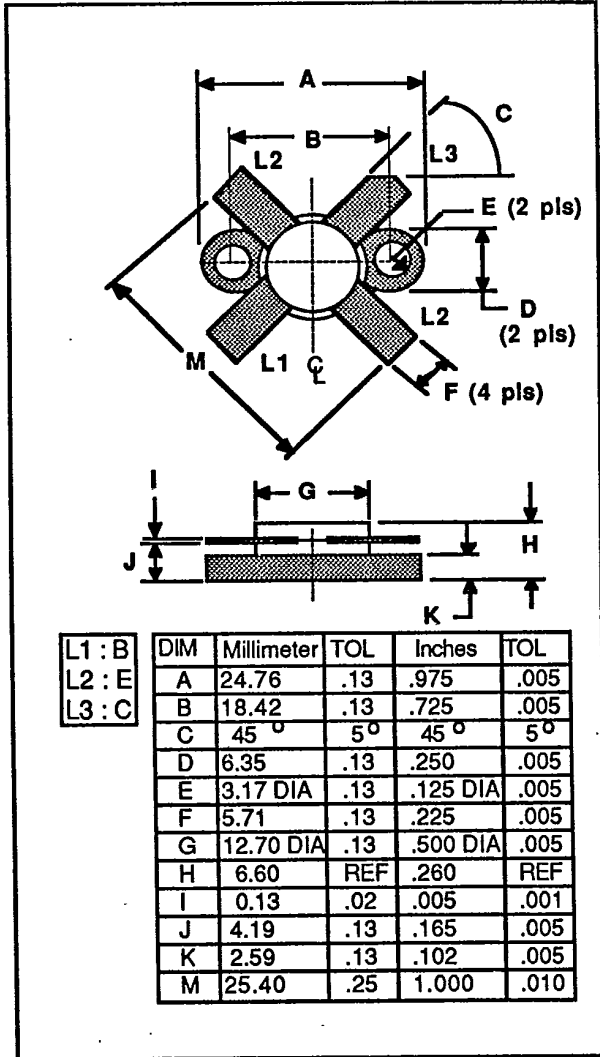
Maximum Power Dissipation @ 25 C Case Temperature 250 W

**Maximum Voltage and Current**

BVces Collector to Emitter Voltage 3.6 V  
 BVebo Emitter to Base Voltage 4.0 V  
 Ic Collector Current 50 A

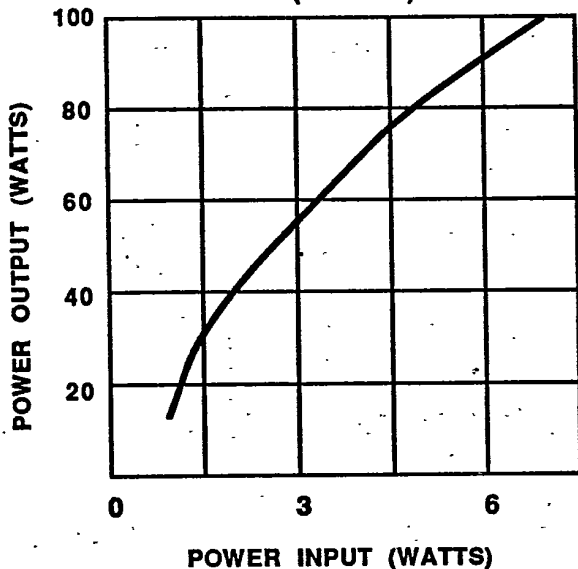
**Maximum Temperatures**

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



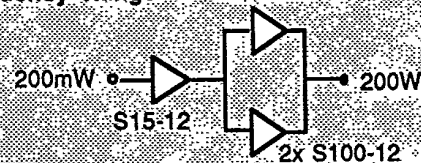
DIM	Millimeter	TOL	Inches	TOL
L1 : B				
L2 : E				
L3 : C				
A	24.76	.13	.975	.005
B	18.42	.13	.725	.005
C	45°	5°	45°	5°
D	6.35	.13	.250	.005
E	3.17 DIA	.13	.125 DIA	.005
F	5.71	.13	.225	.005
G	12.70 DIA	.13	.500 DIA	.005
H	6.60	REF	.260	REF
I	0.13	.02	.005	.001
J	4.19	.13	.165	.005
K	2.59	.13	.102	.005
M	25.40	.25	1.000	.010

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



**TYPICAL AMPLIFIER LINE UP**

Vcc = 12.5 Volts  
 Frequency Range = 1.5-30 MHz

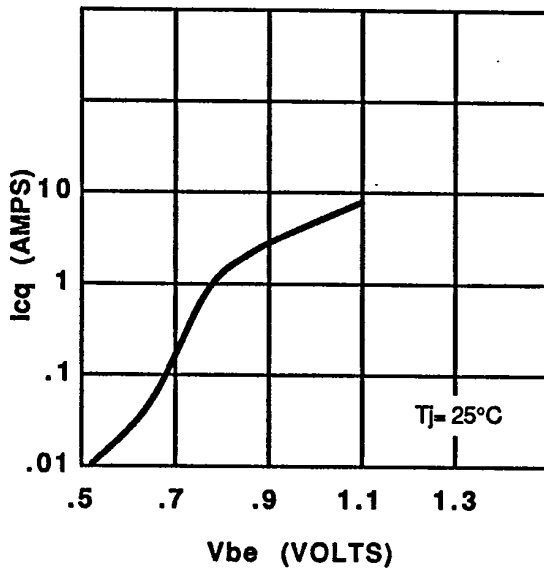


**S100-12-2**

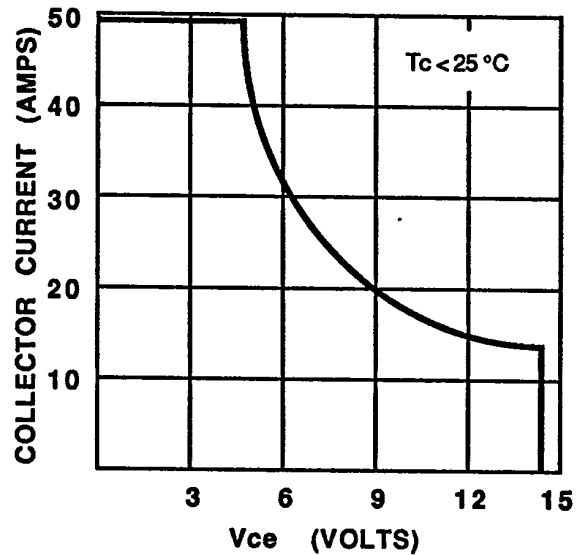
**ELECTRICAL CHARACTERISTICS**

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P <sub>out</sub>	Power Output	f= 1.5 - 30MHz	100			Watts
P <sub>in</sub>	Power Input	At Rated Power Out, V <sub>c</sub> =12.5V			8.5	Watts
P <sub>g</sub>	Power Gain		10.7			dB
V <sub>Vebo</sub>	Voltage - Emitter to Base	I <sub>e</sub> = 10mA	3.5			Volts
V <sub>Vces</sub>	Voltage - Collector to Base	I <sub>c</sub> = 100mA	36			Volts
V <sub>Vceo</sub>	Voltage - Collector to Emitter	I <sub>c</sub> = 100mA	16			Volts
IMD	Intermodulation Distortion Level				-30	dBc
VSWR	Load Mismatch Tolerance				30:1	
η <sub>c</sub>	Collector Efficiency	At Rated Power Out		65		%
I <sub>ces</sub>	Collector to Base Cutoff Current	V <sub>cb</sub> =15V			50	mA
C <sub>cb</sub>	Capacitance-Collector to Base	V <sub>cb</sub> =12.5V, f=1MHz		400		pF
h <sub>FE</sub>	DC-Current Gain	V <sub>ce</sub> =5V, I <sub>c</sub> =1A	10			
θ <sub>jc</sub>	Thermal Resistance				0.7	°C/W

**I<sub>cq</sub> VS V<sub>be</sub> (TYPICAL)**



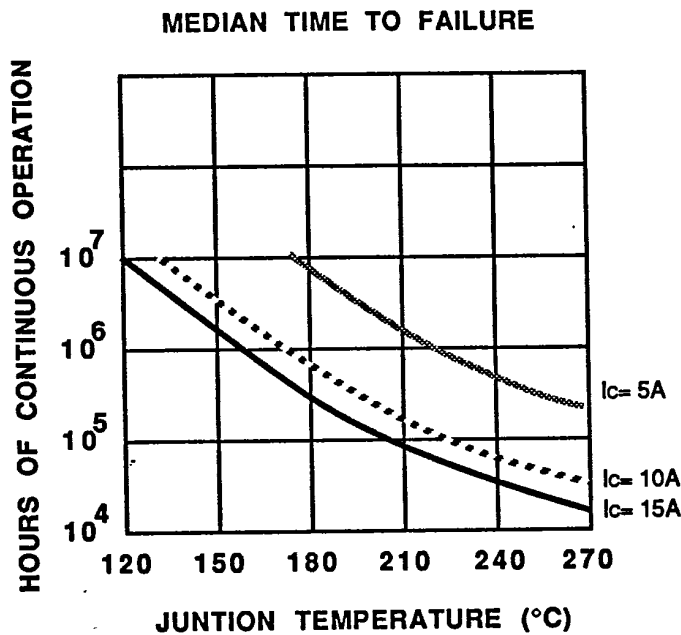
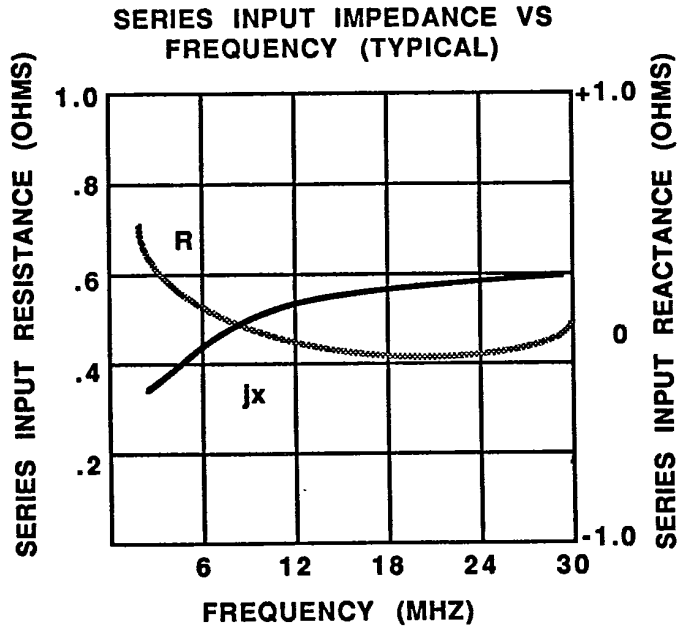
**DC SAFE OPERATING AREA (TYPICAL)**



SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

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**S100-12-3**



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