S100-12

100 WATTS - 12.5 VOLTS
1.5-30 MHz

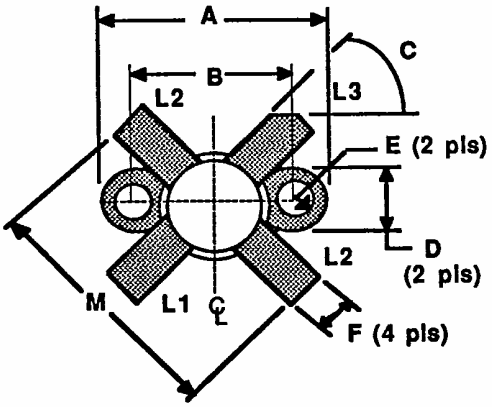
HF COMMUNICATIONS

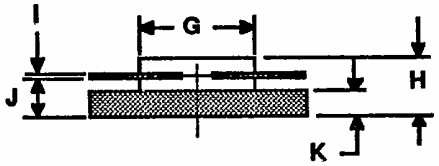
GENERAL DESCRIPTION

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.

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

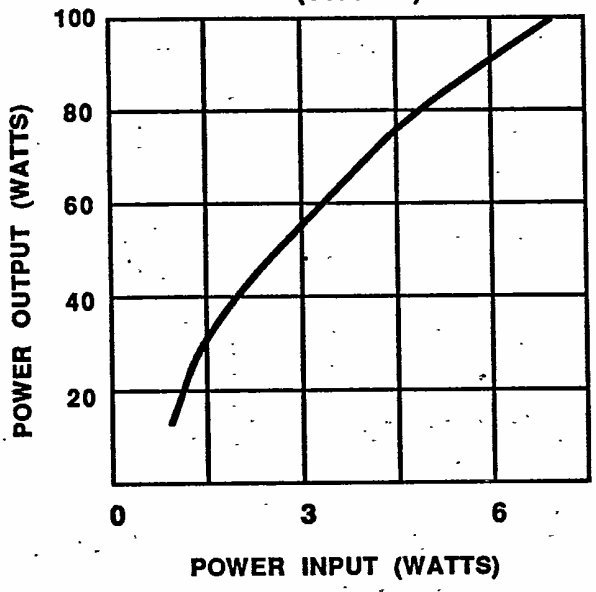




L1 : B
L2 : E
L3 : C

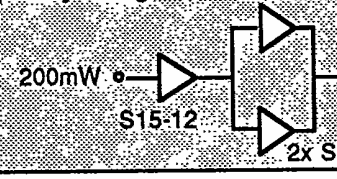
DIM	Millimeter	TOL	Inches	TOL
A	24.76	.13	.975	.005
B	18.42	.13	.725	.005
C	45°	5°	45°	5°
D	6.35	.13	.250	.005
E	3.17 DIA	.13	.125 DIA	.005
F	5.71	.13	.225	.005
G	12.70 DIA	.13	.500 DIA	.005
H	6.60	REF	.260	REF
I	0.13	.02	.005	.001
J	4.19	.13	.165	.005
K	2.59	.13	.102	.005
M	25.40	.25	1.000	.010

POWER OUTPUT VS POWER INPUT (TYPICAL)



TYPICAL AMPLIFIER LINE UP

Vcc = 12.5 Volts
Frequency Range = 1.5-30 MHz



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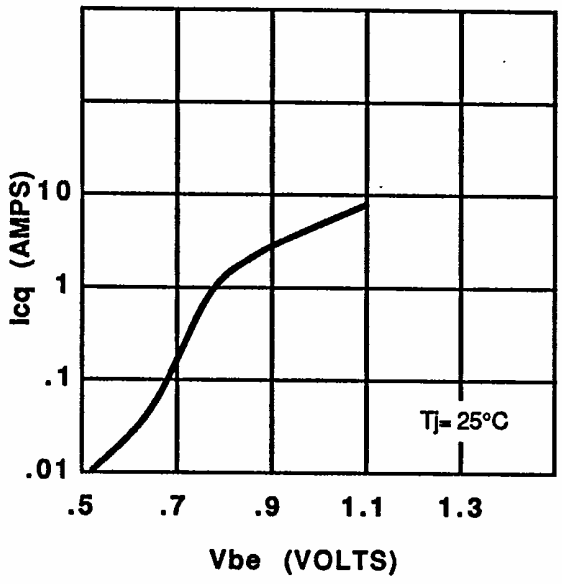
S100-12-2

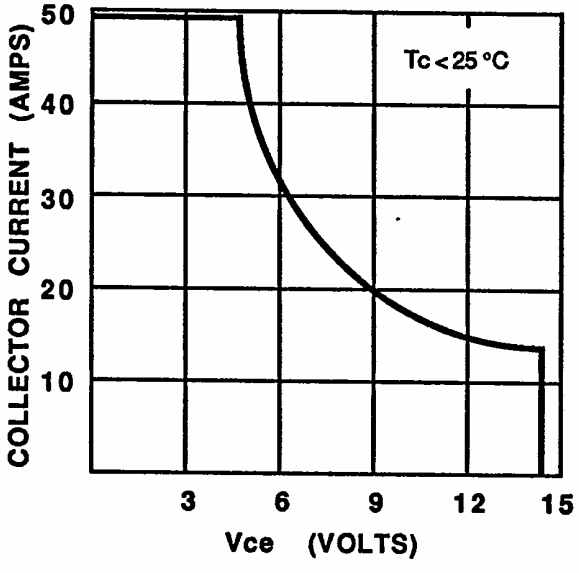
ELECTRICAL CHARACTERISTICS

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Pout	Power Output	f= 1.5 - 30MHz	100			Watts
Pin	Power Input	At Rated Power Out, Vc=12.5V			8.5	Watts
Pg	Power Gain		10.7			dB
BVebo	Voltage - Emitter to Base	Ie= 10mA	3.5			Volts
BVces	Voltage - Collector to Base	Ic= 100mA	36			Volts
BVceo	Voltage - Collector to Emitter	Ic= 100mA	16			Volts
IMD	Intermodulation Distortion Level				-30	dBc
VSWR	Load Mismatch Tolerance				30:1	
η_c	Collector Efficiency	At Rated Power Out		65		%
Ices	Collector to Base Cutoff Current	Vcb=15V			50	mA
Ccb	Capacitance- Collector to Base	Vcb=12.5V, f=1MHz		400		pF
h_{FE}	DC-Current Gain	Vce=5V, Ic=1A	10			
θ jc	Thermal Resistance				0.7	°C/W

Icq VS Vbe (TYPICAL)



DC SAFE OPERATING AREA (TYPICAL)



SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE