S100-50

100 WATTS - 50 VOLTS 30 MHz

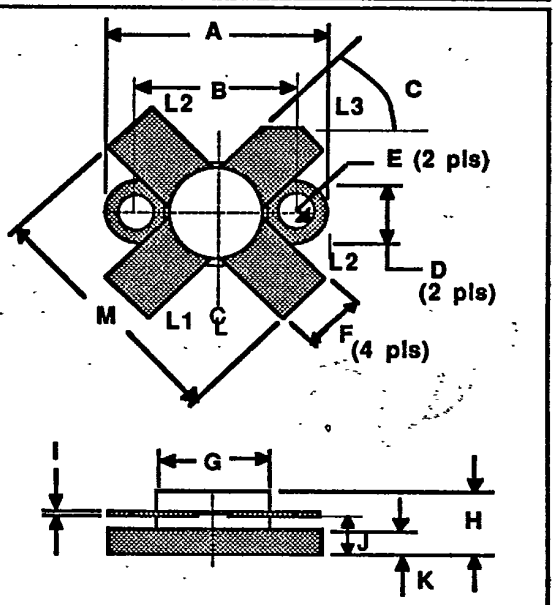
HF COMMUNICATIONS

GENERAL DESCRIPTION

The S100-50 is specifically designed for HF linear operation from a 50 volt supply, where the full capabilities of the S175-50 are not required.

ABSOLUTE MAXIMUM RATINGS

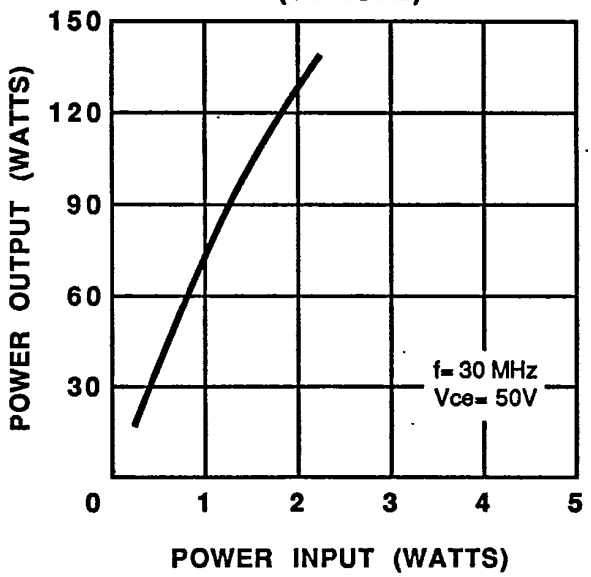
Maximum Power Dissipation @ 25°C Case Temperature		150 W
Maximum Voltage and Current		
BVces	Collector to Emitter Voltage	110 V
BVebo	Emitter to Base Voltage	4.0 V
Ic	Collector Current	10 A
Maximum Temperatures		
Storage Temperature		-65 to +150°C
Operating JunctionTemperature		+200°C



L1 : B
L2 : E
L3 : C

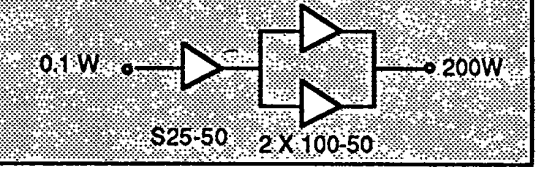
DIM	Millimeter	TOL	Inches	TOL
A	24.76	.13	.975	.005
B	18.42	.13	.725	.005
C	45°	5°	45°	5°
D	6.35	.13	.250	.005
E	3.17 DIA	.13	.125 DIA	.005
F	5.71	.13	.225	.005
G	12.70 DIA	.13	.500 DIA	.005
H	6.65	REF	.262	REF
I	0.13	.02	.005	.001
J	4.24	.13	.167	.005
K	3.17	.13	.125	.005
M	28.90	.25	1.140	.010

POWER OUTPUT VS POWER INPUT (TYPICAL)



TYPICAL AMPLIFIER LINE UP

Vcc= 50 Volts
Frequency Range= 30 MHz



490 Race Street, San Jose, CA 95126 Phone (408) 294-4200, TWX (910) 338-2172
Ewenny Rd., Bridgend, Mid Glamorgan, CF31 3LQ, United Kingdom, Phone (0656) 68021

REV A AUG 1987
Printed in USA

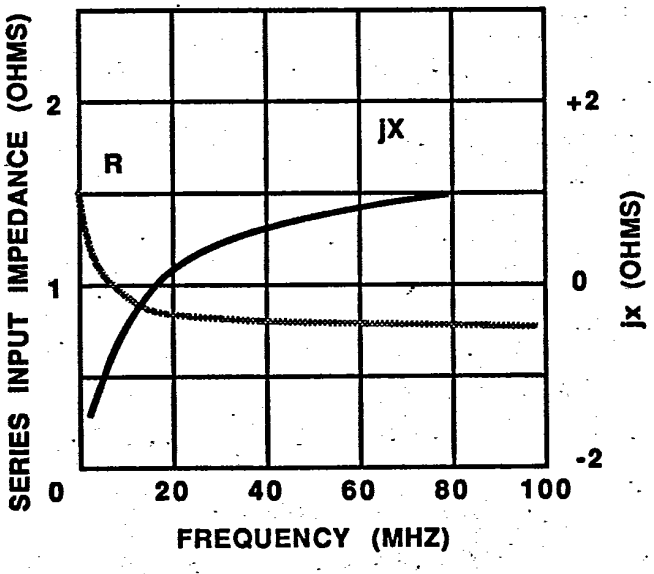
S100-50-2

ELECTRICAL CHARACTERISTICS[1]

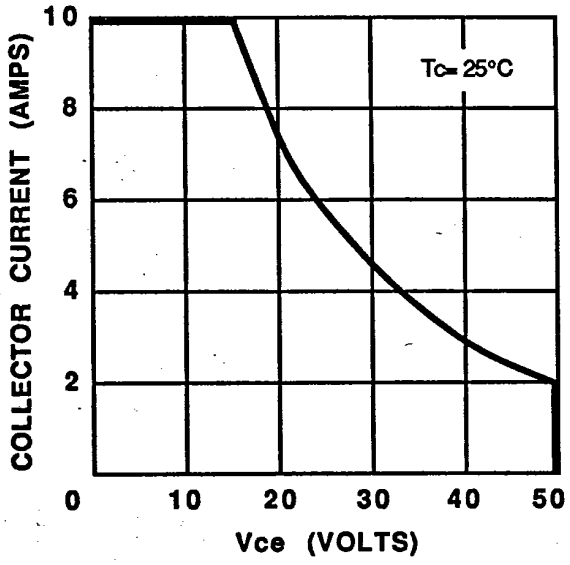
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Pout	Power Output	f= 30 MHz Vcc= 50V	100			Watts
Pin	Power Input				1.75	Watts
Pg	Power Gain		17			dB
η_c	Collector Efficiency			60		%
VSWR	Load Mismatch Tolerance				30:1	
BVebo	Breakdown Voltage (Emitter to Base)	Ie= 10mA	4.0			Volts
BVces	Breakdown Voltage (Collector to Emitter)	Ic= 100mA	110			Volts
BVceo	Breakdown Voltage (Collector to Emitter)	Ic= 100mA	53			Volts
IMD	Intermodulation Distortion	Pout= 100W (PEP)			-32	dBc
Zin	Series Input Impedance	At Rated Power Out		0.7 + j0		Ohms
Ccb	Capacitance-Collector to Base	Vcb= 50V, Ie= 0		95		pF
h_{FE}	DC-Current Gain	Ic= 1A, Vce= 5V	10			
θ_{jc}	Thermal Resistance				1.2	°C/W

Note 1: Tc = +25°C unless otherwise specified

SERIES INPUT IMPEDANCE VS FREQUENCY (TYPICAL)



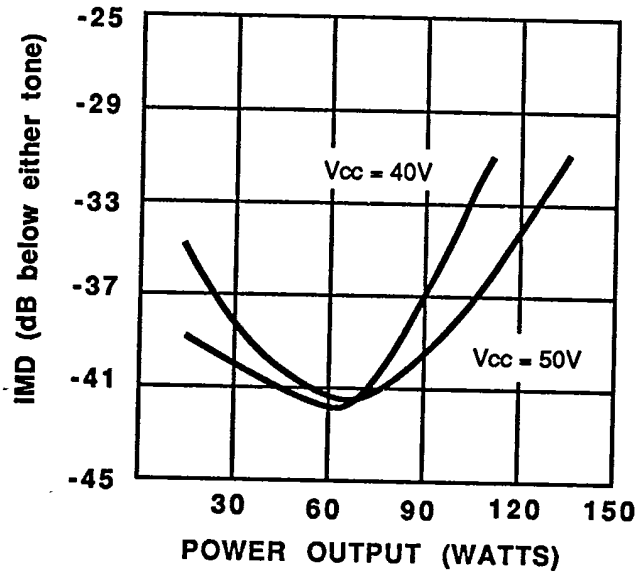
DC SAFE OPERATING AREA (TYPICAL)



SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

S100-50-3

INTERMODULATION DISTORTION VS POWER OUTPUT



QUIESCENT COLLECTOR CURRENT VS BASE EMITTER VOLTAGE