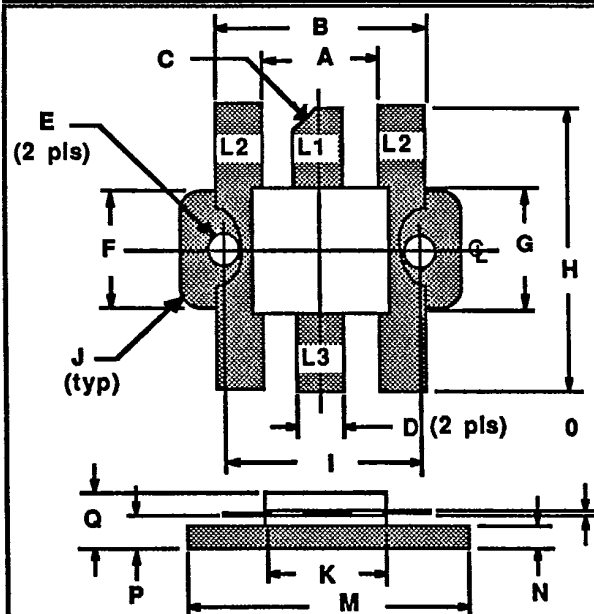


GENERAL DESCRIPTION

The S250-50 is a 50V 250 W (PEP) NPN silicon RF power transistor designed for 1.5 to 30 MHz linear applications. Gold metallization and diffused resistors assure optimum reliability and ruggedness.

S250-50
250 WATTS - 50 VOLTS
1.5-30 MHz

HF COMMUNICATIONS



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C Case Temperature 440 W

Maximum Voltage and Current

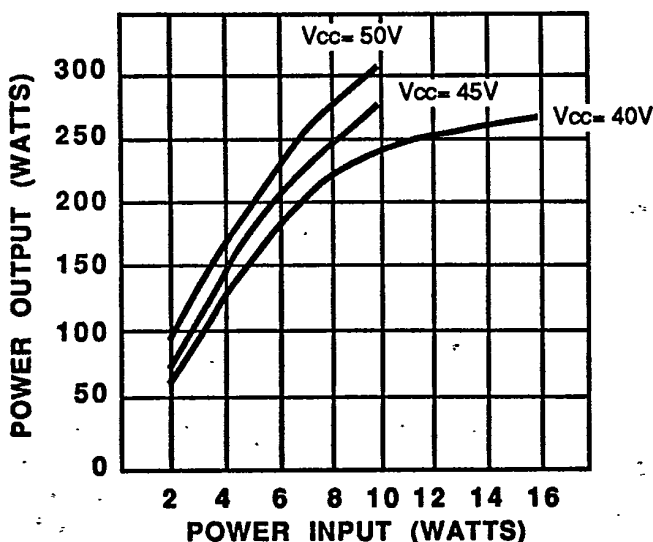
BVces Collector to Emitter Voltage 110 V
 BVebo Emitter to Base Voltage 4.0 V
 Ic Collector Current 30 A

Maximum Temperatures

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

DIM	Millimeter	TOL	Inches	TOL
L1 : c				
L2 : e				
L3 : b				
A	9.09	.13	.358	.005
B	19.30	.13	.760	.005
C	45°	5°	45°	5°
D	5.71	.13	.225	.005
E	3.25 DIA	.13	.128 DIA	.005
F	9.78	.13	.385	.005
G	10.16	.13	.400	.005
H	20.32	.25	.800	.010
I	16.51	.13	.650	.005
J	1.52 R	.13	.060 R	.005
K	10.77	.13	.424	.005
M	22.86	.13	.900	.005
N	1.52	.13	.060	.005
O	0.13	.02	.005	.001
P	2.54	.13	.100	.005
Q	4.70	REF	.185	REF

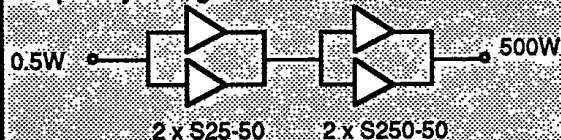
POWER OUTPUT VS POWER INPUT (TYPICAL)



TYPICAL AMPLIFIER LINE UP

Vcc = 28Volts

Frequency Range = 30 MHz



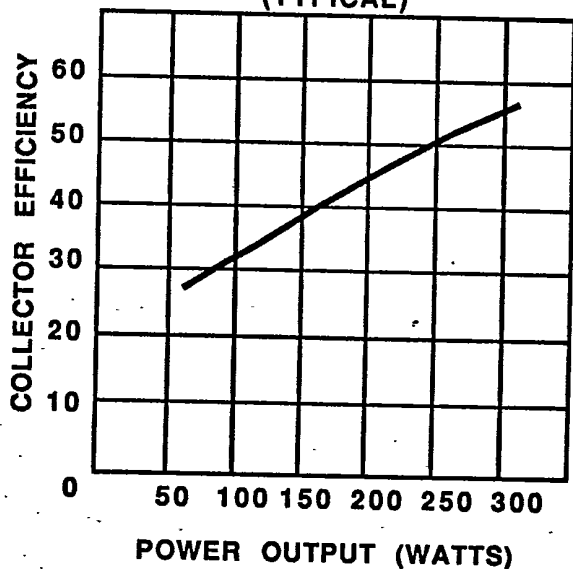
S250-50-2

ELECTRICAL CHARACTERISTICS¹

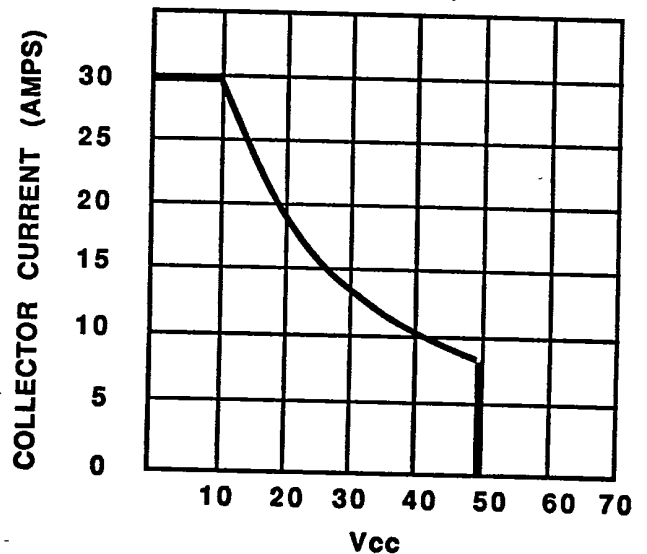
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out}	Power Output	f = 30 MHz V _{cc} = 50V	250			Watts
P _{in}	Power Input				8.0	Watts
P _g	Power Gain		15			dB
η _c	Collector Efficiency			60		%
V _{SWR}	Load Mismatch Capability	f ₁ = 30.000 MHz, f ₂ = 30.005 MHz P _o = 250 PEP, V _{ce} = 50 V			30:1	
B _{V_{ebo}}	Breakdown Voltage (Emitter to Base)	I _c = 0A, I _e = 20 mA	4.0			Volts
B _{V_{ces}}	Breakdown Voltage (Collector to Emitter)	V _{be} = 0, I _c = 200 mA	110			Volts
B _{V_{ceo}}	Breakdown Voltage (Collector to Emitter)	I _b = 0A, I _c = 200 mA	53			Volts
I _{ces}	Collector to Emitter Leakage Current	V _c = 50V			60	mA
IMD	3rd Order Products	P _o = 250 PEP, V _{ce} = 50 V f ₁ = 30.000 MHz, f ₂ = 30.005 MHz		-32	-30	dBc
C _{ob}	Capacitance-Collector to Base	V _{cb} = 50V, I _e = 0		280	300	pF
h _{FE}	DC-Current Gain	V _{ce} = 5V, I _c = 1 A	10	20	60	
θ _{jc}	Thermal Resistance				0.4	°C/W
Z _{in}	Series Input Impedance	f ₁ = 30.000 MHz, V _{cc} = 50 V f ₂ = 30.005 MHz		2.2 - j3.3		Ohms

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

POWER OUTPUT VS COLLECTOR EFFICIENCY (TYPICAL)



DC SAFE OPERATING AREA (TYPICAL)

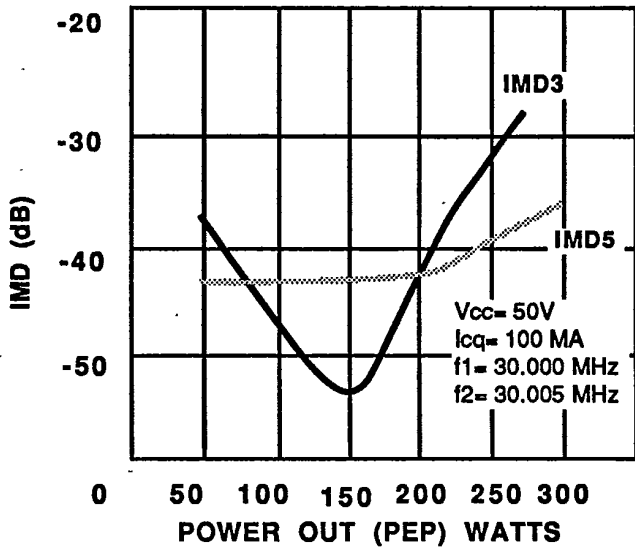


SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

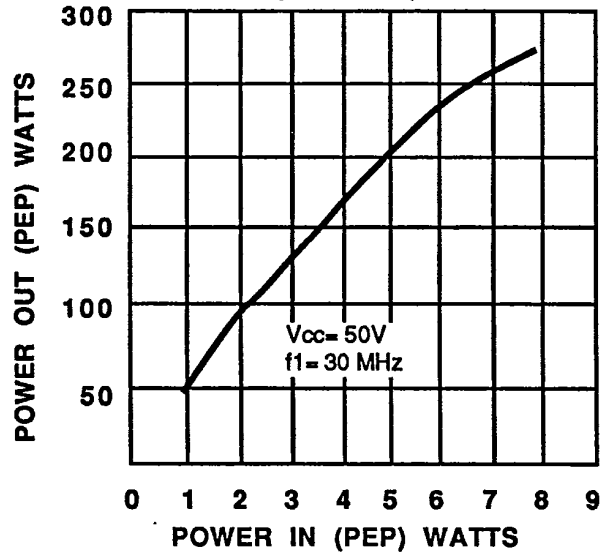
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S250-50-3

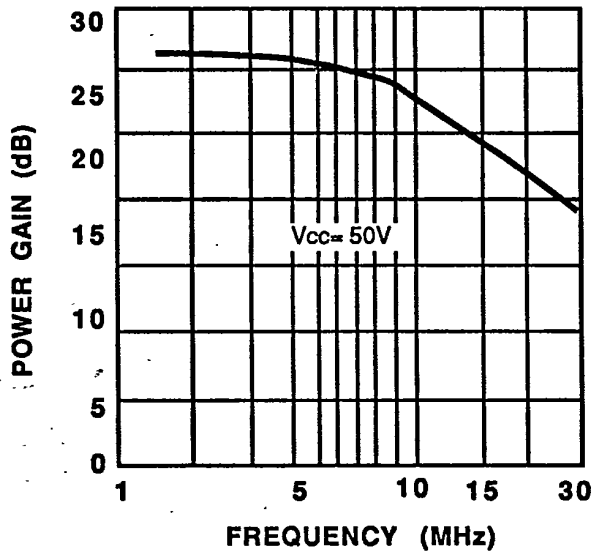
IMD VS POWER OUT (PEP)



POWER IN VS POWER OUT (PEP) (TYPICAL)



POWER GAIN VS FREQUENCY (TYPICAL)



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