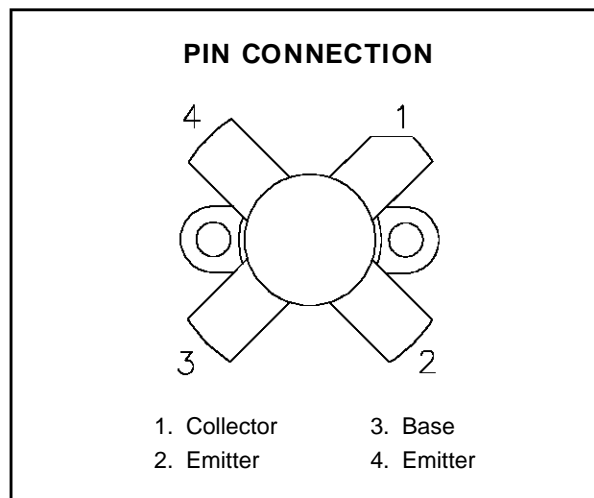
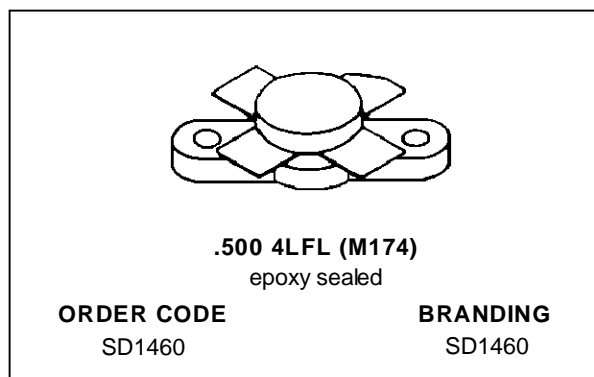


**RF & MICROWAVE TRANSISTORS
FM BROADCAST APPLICATIONS**

- 108 MHz
- 28 VOLTS
- EFFICIENCY 75%
- COMMON EMITTER
- GOLD METALLIZATION
- P_{OUT} = 150 W MIN. WITH 9.2 dB GAIN


DESCRIPTION

The SD1143 is a 28 V gold metallized epitaxial silicon NPN planar transistor designed for VHF FM broadcast transmitters. This device utilizes diffused emitter resistors to achieve infinite VSWR at rated operating conditions.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	25	V
V _{CES}	Collector-Emitter Voltage	60	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _c	Device Current	16	A
P _{DISS}	Power Dissipation	230	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	- 65 to +150	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance	0.75	°C/W
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SD1460

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

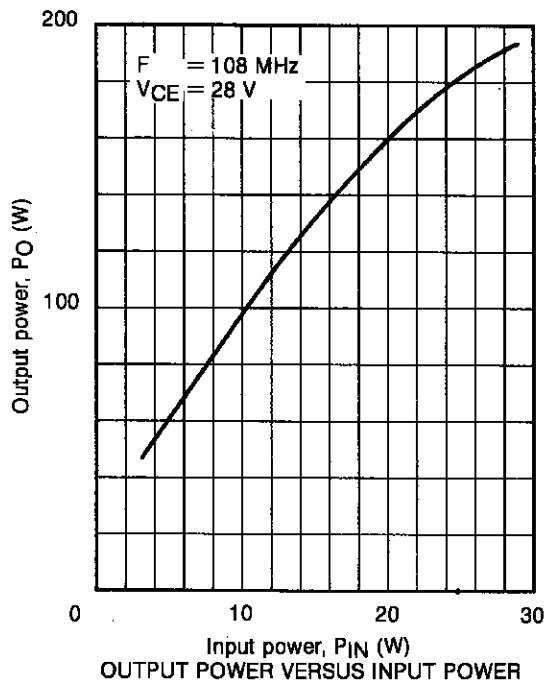
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 100mA	I _E = 0mA	60	—	—	V
BV _{CER}	I _C = 100mA	R _{BE} = 10Ω	55	—	—	V
BV _{CEO}	I _C = 100mA	I _B = 0mA	25	—	—	V
BV _{EBO}	I _E = 20mA	I _C = 0mA	4.0	—	—	V
h _{FE}	V _{CE} = 5V	I _C = 1A	20	—	150	—

DYNAMIC

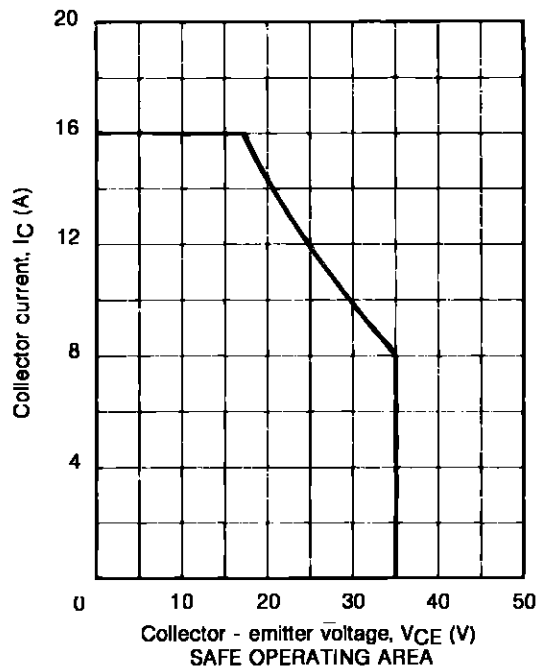
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 108 MHz	P _{IN} = 18 W	V _{CE} = 28 V	150	—	—	W
G _P	f = 108 MHz	P _{IN} = 18 W	V _{CE} = 28 V	9.2	—	—	dB
η _c	f = 108 MHz	P _{IN} = 18 W	V _{CE} = 28 V	70	—	—	%
C _{OB}	f = 1 MHz	V _{CB} = 28 V		—	—	150	pF

TYPICAL PERFORMANCE

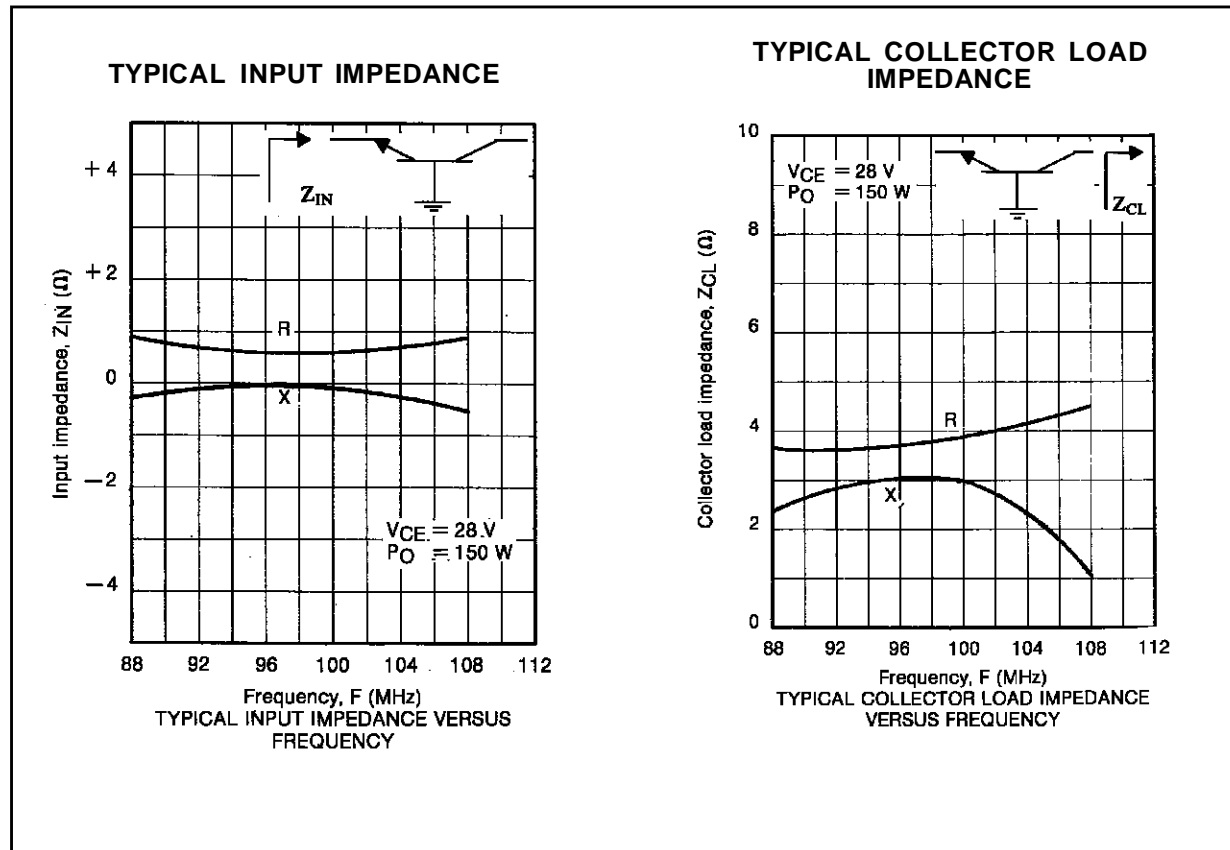
POWER OUTPUT vs POWER INPUT



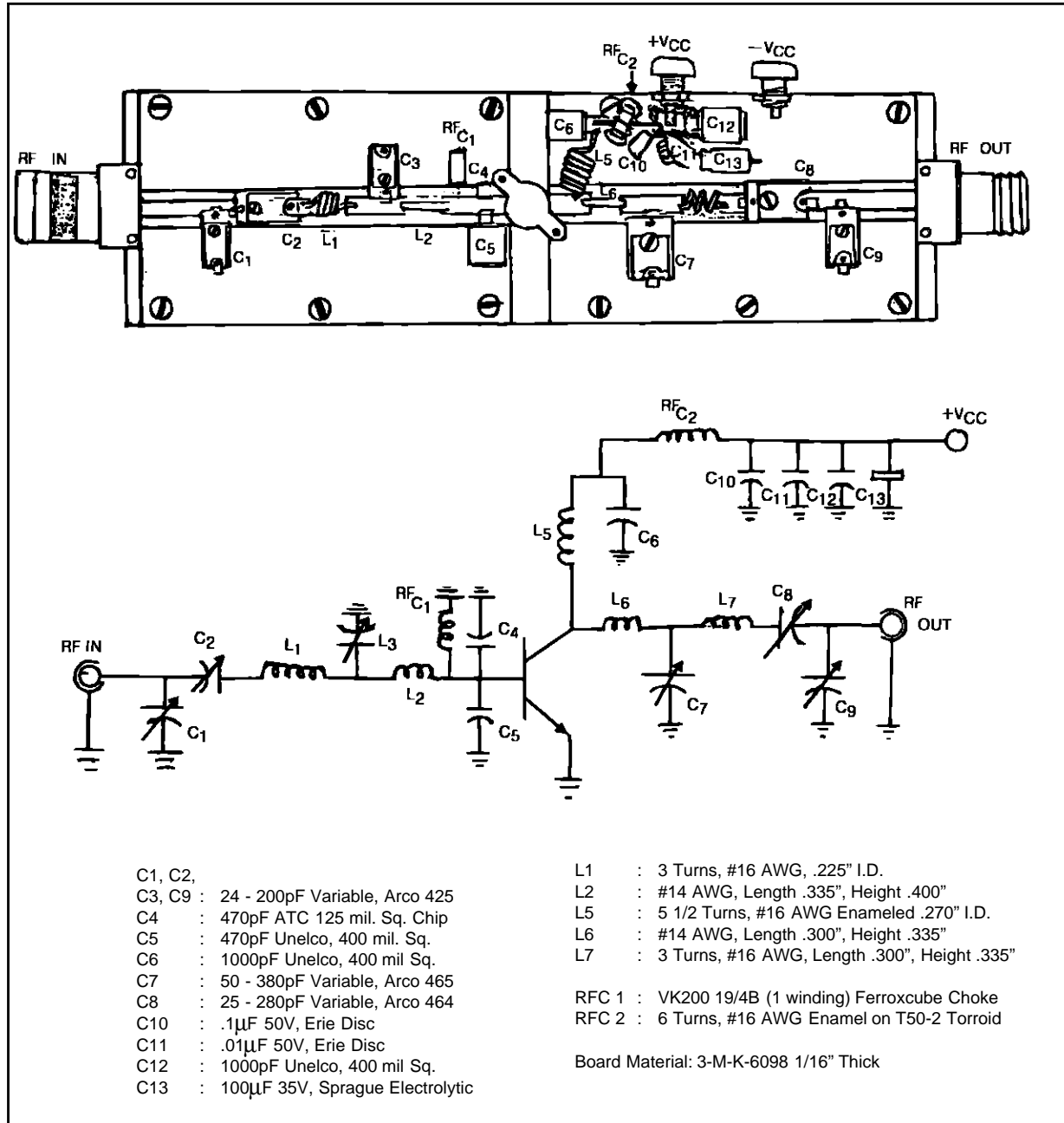
SAFE OPERATING AREA



IMPEDANCE DATA

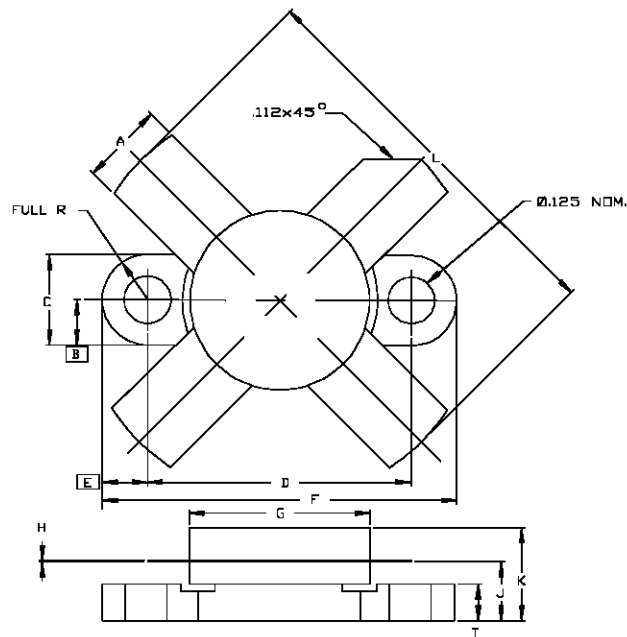


TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0174



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.220/5,59	.230/5,84	K		.280/7,11
B	.125/3,18		L		1.050/26,67
C	.245/6,22	.255/6,48			
D	.720/18,28	.730/18,54			
E	.125/3,18				
F	.970/24,64	.980/24,89			
G	.495/12,57	.505/12,83			
H	.003/0,08	.007/0,18			
I	.090/2,29	.110/2,79			
J	.160/4,06	.175/4,45			

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