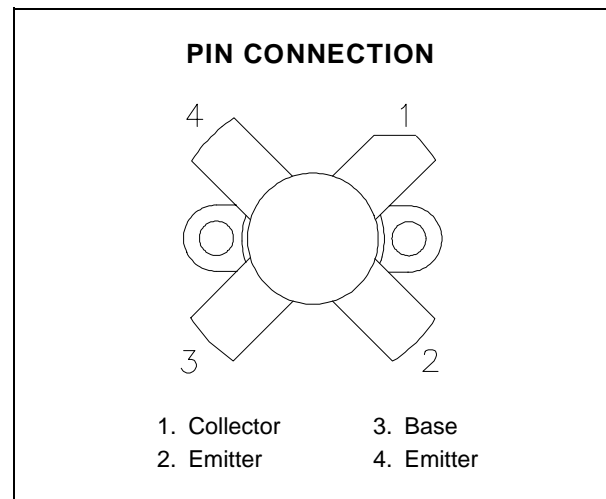
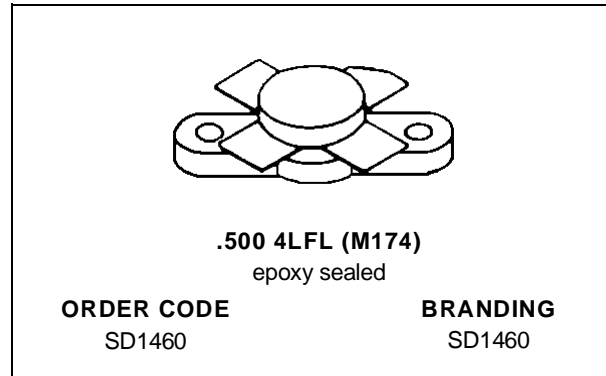


**RF & MICROWAVE TRANSISTORS  
FM BROADCAST APPLICATIONS**

- 108 MHz
- 28 VOLTS
- EFFICIENCY 75%
- COMMON EMITTER
- GOLD METALLIZATION
- P<sub>OUT</sub> = 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<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	60	V
V <sub>CEO</sub>	Collector-Emitter Voltage	25	V
V <sub>CES</sub>	Collector-Emitter Voltage	60	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>c</sub>	Device Current	16	A
P <sub>DISS</sub>	Power Dissipation	230	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +150	°C

**THERMAL DATA**

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance	0.75	°C/W
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# SD1460

## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

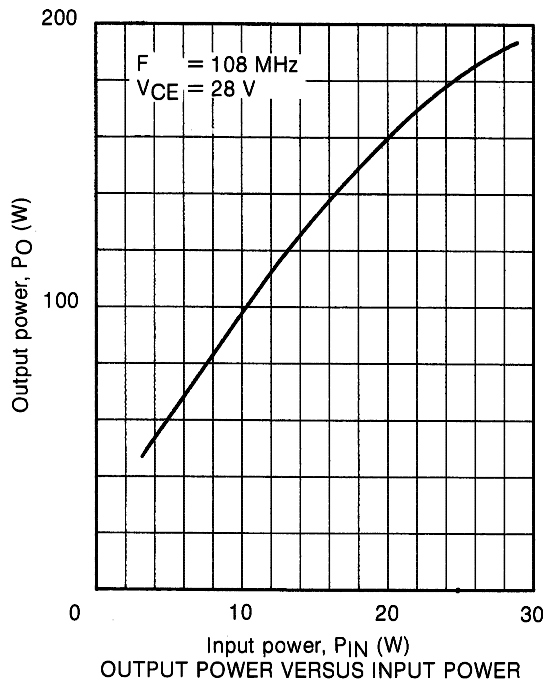
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 100mA	I <sub>E</sub> = 0mA	60	—	—	V
BV <sub>CER</sub>	I <sub>C</sub> = 100mA	R <sub>BE</sub> = 10Ω	55	—	—	V
BV <sub>CEO</sub>	I <sub>C</sub> = 100mA	I <sub>B</sub> = 0mA	25	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 20mA	I <sub>C</sub> = 0mA	4.0	—	—	V
h <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = 1A	20	—	150	—

### DYNAMIC

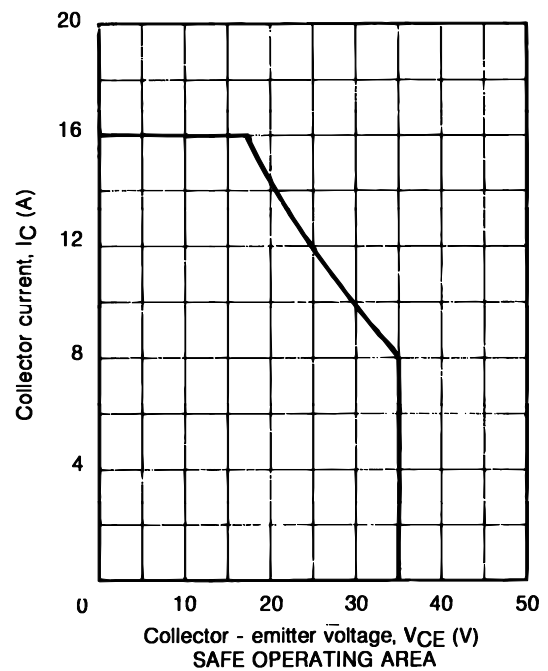
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 108 MHz	P <sub>IN</sub> = 18 W	V <sub>CE</sub> = 28 V	150	—	—	W
G <sub>P</sub>	f = 108 MHz	P <sub>IN</sub> = 18 W	V <sub>CE</sub> = 28 V	9.2	—	—	dB
η <sub>c</sub>	f = 108 MHz	P <sub>IN</sub> = 18 W	V <sub>CE</sub> = 28 V	70	—	—	%
C <sub>OB</sub>	f = 1 MHz	V <sub>CB</sub> = 28 V		—	—	150	pF

### TYPICAL PERFORMANCE

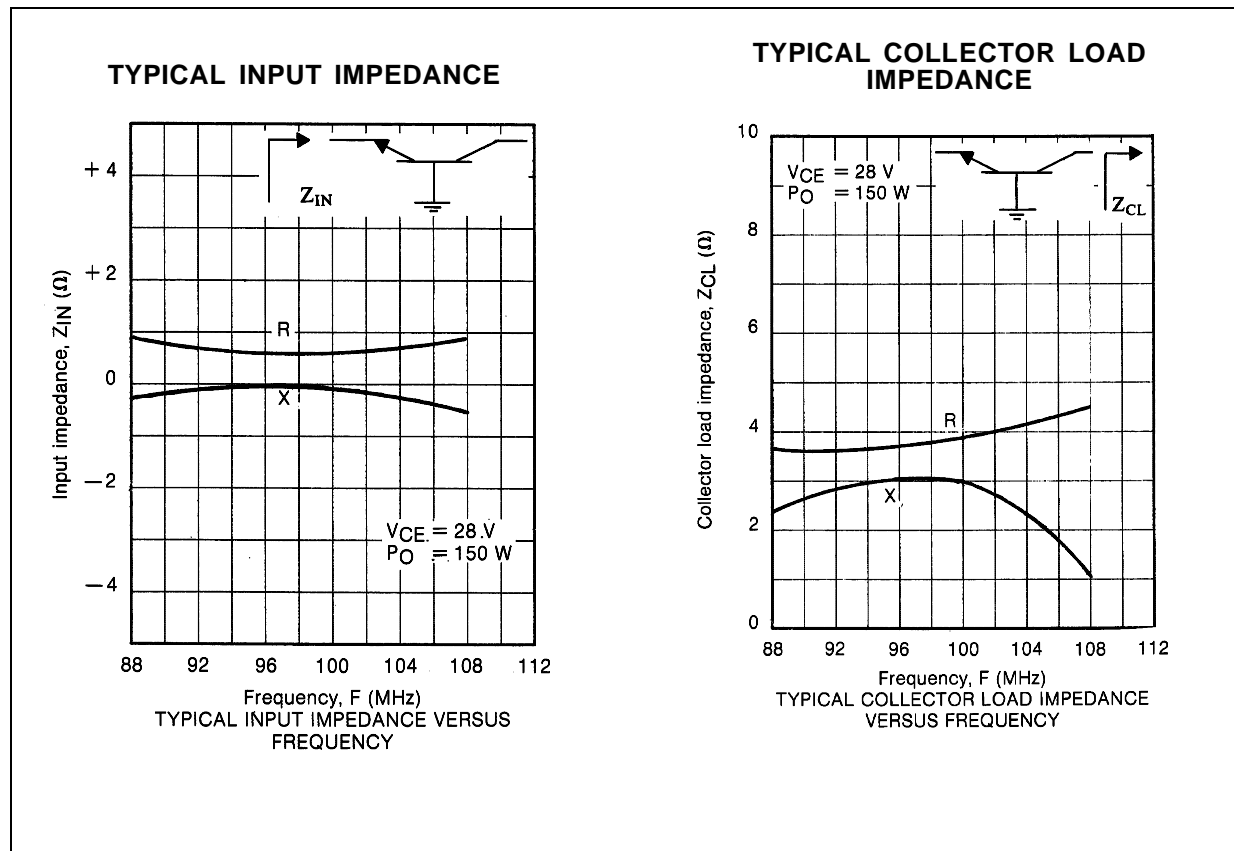
**POWER OUTPUT vs POWER INPUT**



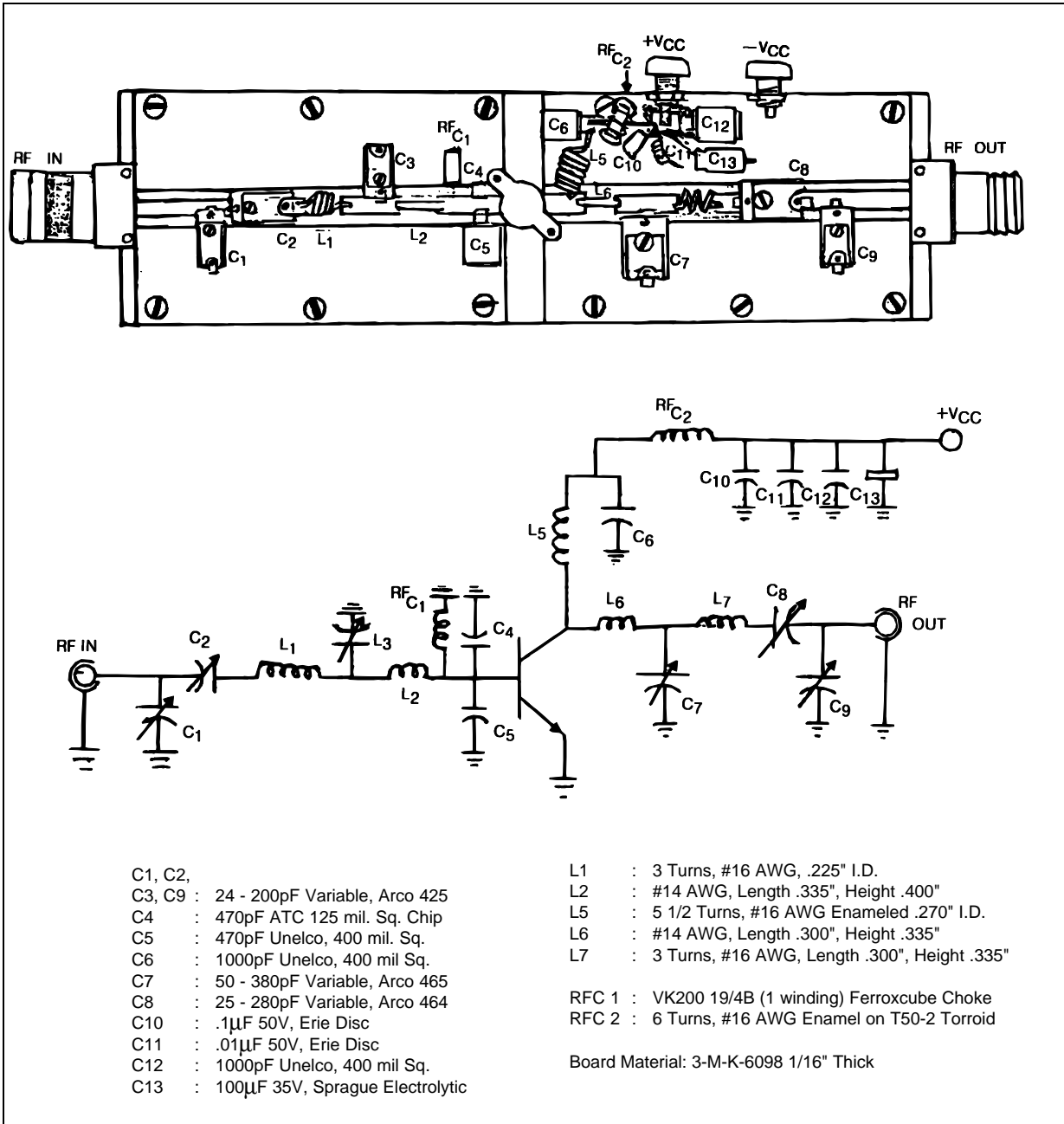
**SAFE OPERATING AREA**



## IMPEDANCE DATA

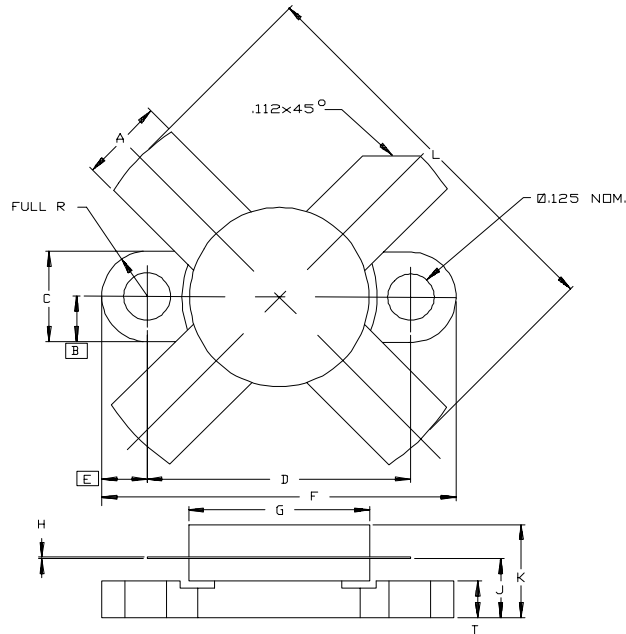


TEST CIRCUIT



## 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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