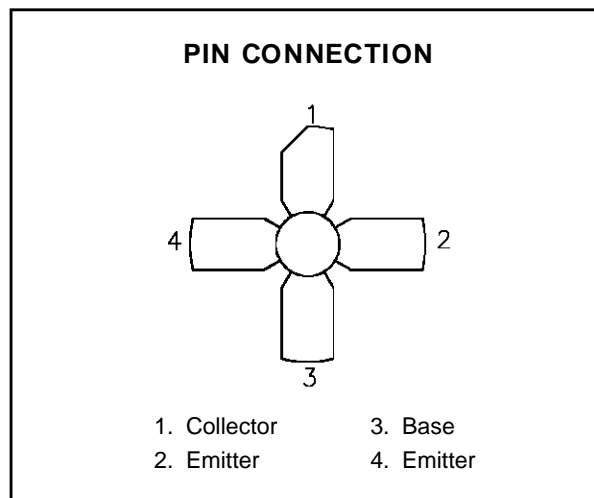
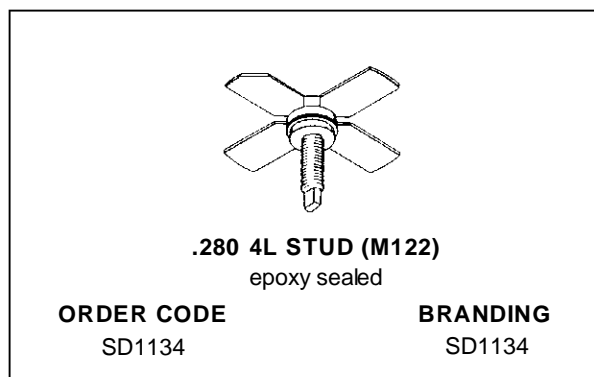


**RF & MICROWAVE TRANSISTORS  
UHF MOBILE APPLICATIONS**

- 450 - 512 MHz
- 12.5 VOLTS
- EFFICIENCY 55%
- COMMON EMITTER
- P<sub>OUT</sub> = 2.0 W MIN. WITH 10.0 dB GAIN


**DESCRIPTION**

The SD1134 is a 12.5 V Class C epitaxial silicon NPN planar transistor designed primarily for UHF communications. This device utilizes improved metallization to achieve infinite VSWR at rated operating conditions.

**ABSOLUTE MAXIMUM RATINGS** (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	36	V
V <sub>CEO</sub>	Collector-Emitter Voltage	16	V
V <sub>CES</sub>	Collector-Emitter Voltage	36	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>c</sub>	Device Current	0.75	A
P <sub>DISS</sub>	Power Dissipation	5	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	35	°C/W
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# SD1134

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

### STATIC

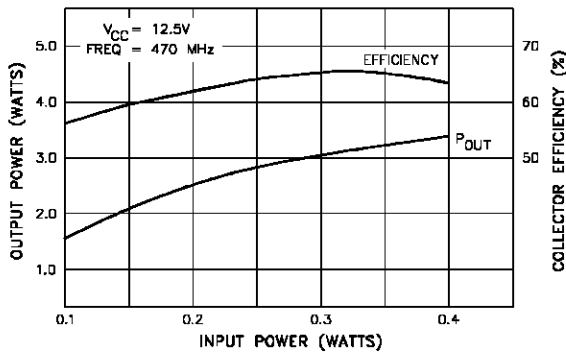
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CES</sub>	I <sub>C</sub> = 5mA	V <sub>BE</sub> = 0V	36	—	—	V
BV <sub>CEO</sub>	I <sub>C</sub> = 25mA	I <sub>B</sub> = 0mA	16	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 1mA	I <sub>C</sub> = 0mA	4.0	—	—	V
I <sub>CBO</sub>	V <sub>CB</sub> = 15V	I <sub>E</sub> = 0mA	—	—	1	mA
h <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = 100mA	20	—	—	—

### DYNAMIC

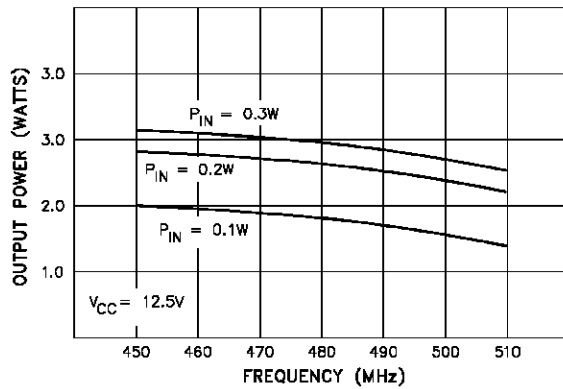
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 470 MHz	P <sub>IN</sub> = 0.20 W	V <sub>CC</sub> = 12.5 V	2.0	—	—	W
G <sub>P</sub>	f = 470 MHz	P <sub>IN</sub> = 0.20 W	V <sub>CC</sub> = 12.5 V	10.0	—	—	dB
C <sub>OB</sub>	f = 1 MHz	V <sub>CB</sub> = 12 V		—	6	—	pF

### TYPICAL PERFORMANCE

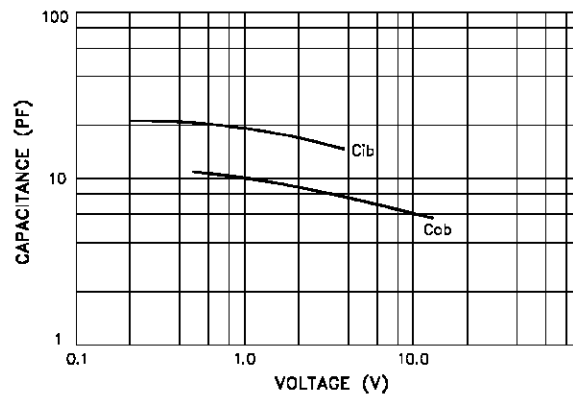
**POWER OUTPUT & COLLECTOR EFFICIENCY vs POWER INPUT**



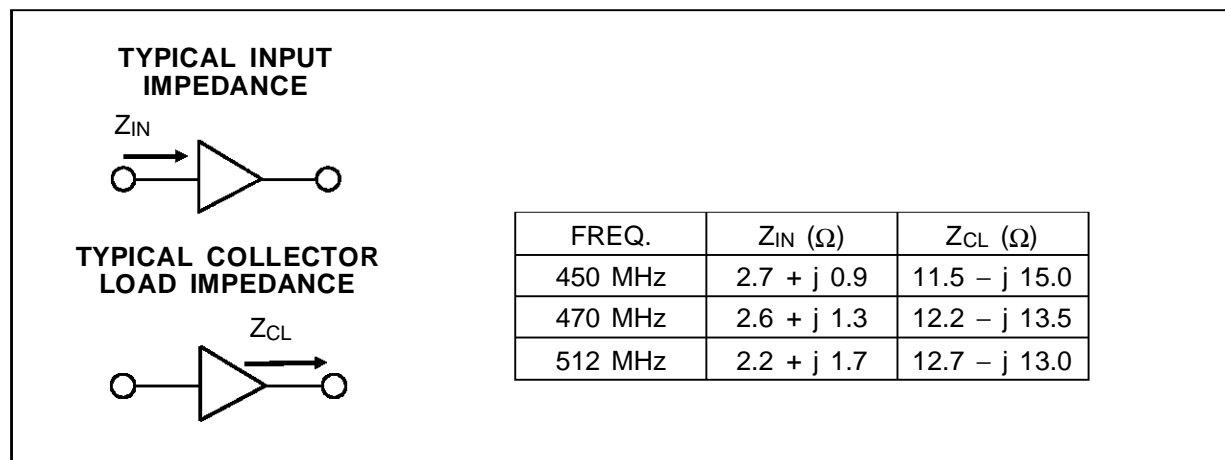
**POWER OUTPUT vs FREQUENCY**



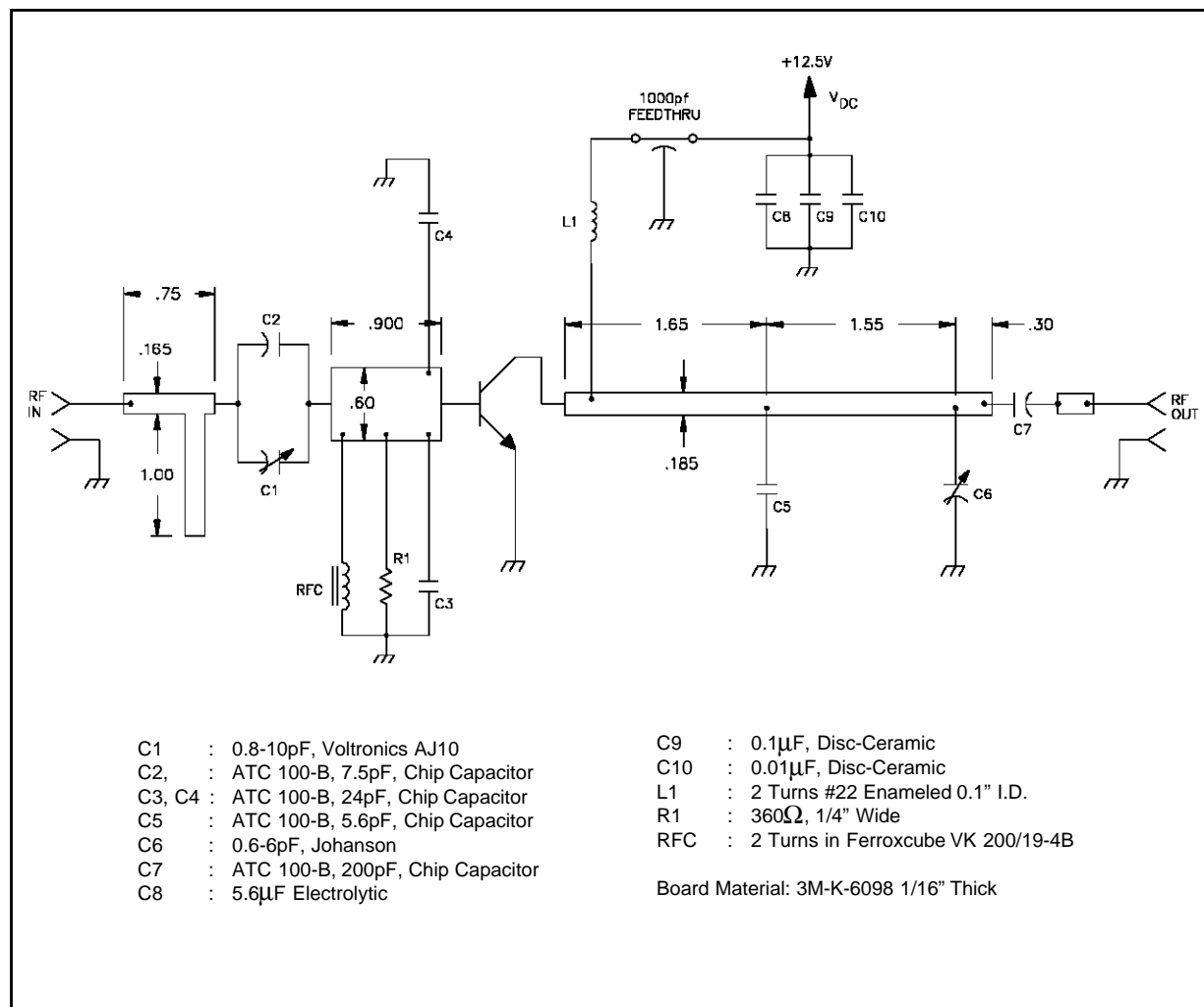
**CAPACITANCE vs VOLTAGE**



### IMPEDANCE DATA

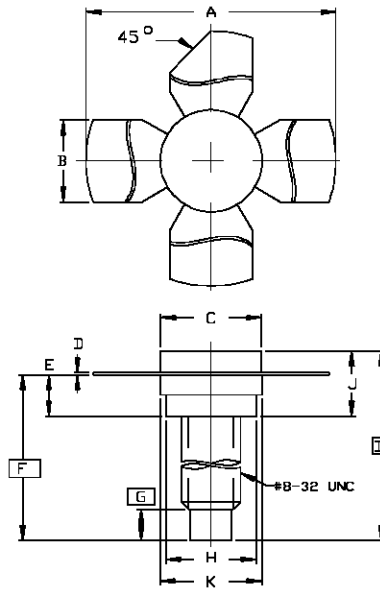


### TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0122



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	1.010/25,65	1.055/26,80
B	.220/5,59	.230/5,84
C	.270/6,86	.285/7,24
D	.003/0,08	.007/0,18
E	.117/2,97	.137/3,48
F	.572/14,53	
G	.130/3,30	
H	.245/6,22	.255/6,48
I	.640/16,26	
J	.175/4,45	.217/5,51
K	.275/6,99	.285/7,24

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