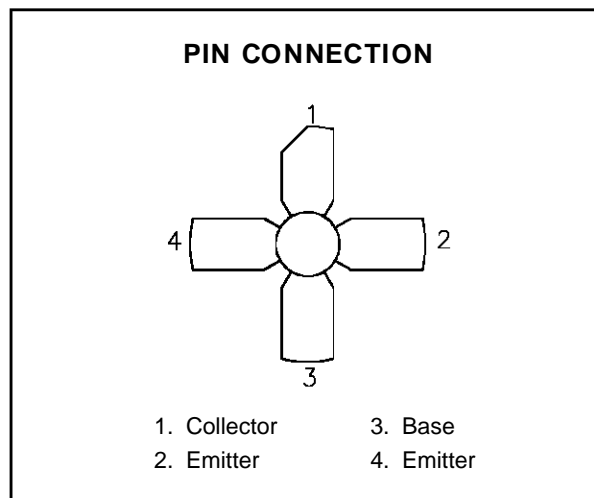
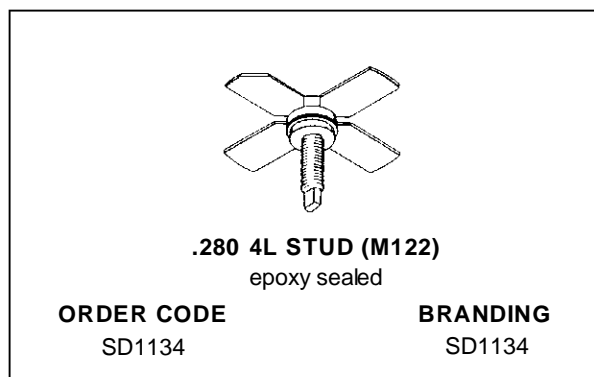


**RF & MICROWAVE TRANSISTORS
UHF MOBILE APPLICATIONS**

- 450 - 512 MHz
- 12.5 VOLTS
- EFFICIENCY 55%
- COMMON EMITTER
- P_{OUT} = 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_{case} = 25°C)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	36	V
V _{CEO}	Collector-Emitter Voltage	16	V
V _{CES}	Collector-Emitter Voltage	36	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _c	Device Current	0.75	A
P _{DISS}	Power Dissipation	5	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	35	°C/W
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SD1134

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

STATIC

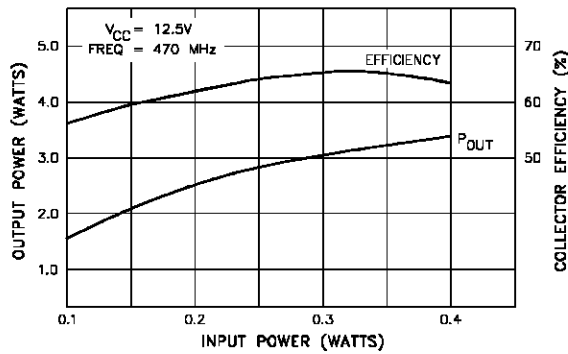
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CES}	I _C = 5mA	V _{BE} = 0V	36	—	—	V
BV _{CEO}	I _C = 25mA	I _B = 0mA	16	—	—	V
BV _{EBO}	I _E = 1mA	I _C = 0mA	4.0	—	—	V
I _{CBO}	V _{CB} = 15V	I _E = 0mA	—	—	1	mA
h _{FE}	V _{CE} = 5V	I _C = 100mA	20	—	—	—

DYNAMIC

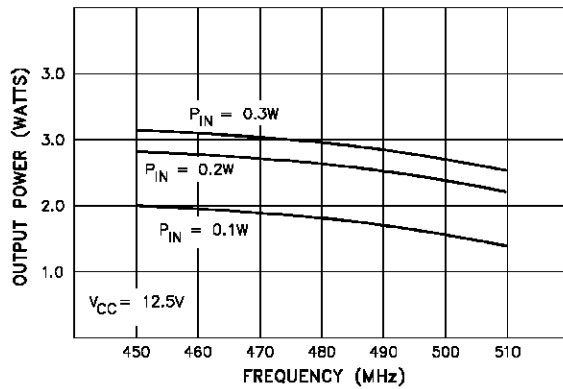
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 470 MHz	P _{IN} = 0.20 W	V _{CC} = 12.5 V	2.0	—	—	W
G _P	f = 470 MHz	P _{IN} = 0.20 W	V _{CC} = 12.5 V	10.0	—	—	dB
C _{OB}	f = 1 MHz	V _{CB} = 12 V		—	6	—	pF

TYPICAL PERFORMANCE

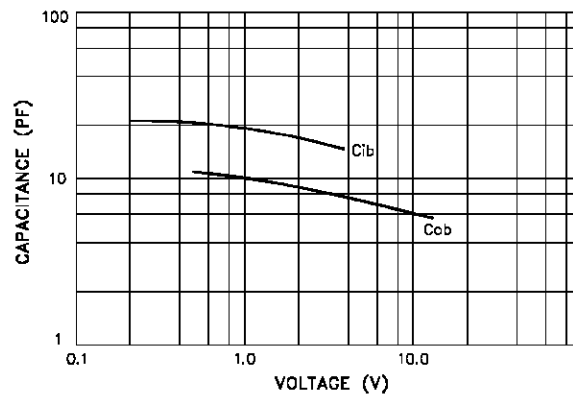
POWER OUTPUT & COLLECTOR EFFICIENCY vs POWER INPUT



POWER OUTPUT vs FREQUENCY

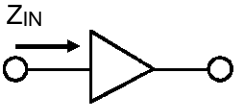


CAPACITANCE vs VOLTAGE

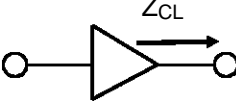


IMPEDANCE DATA

TYPICAL INPUT IMPEDANCE

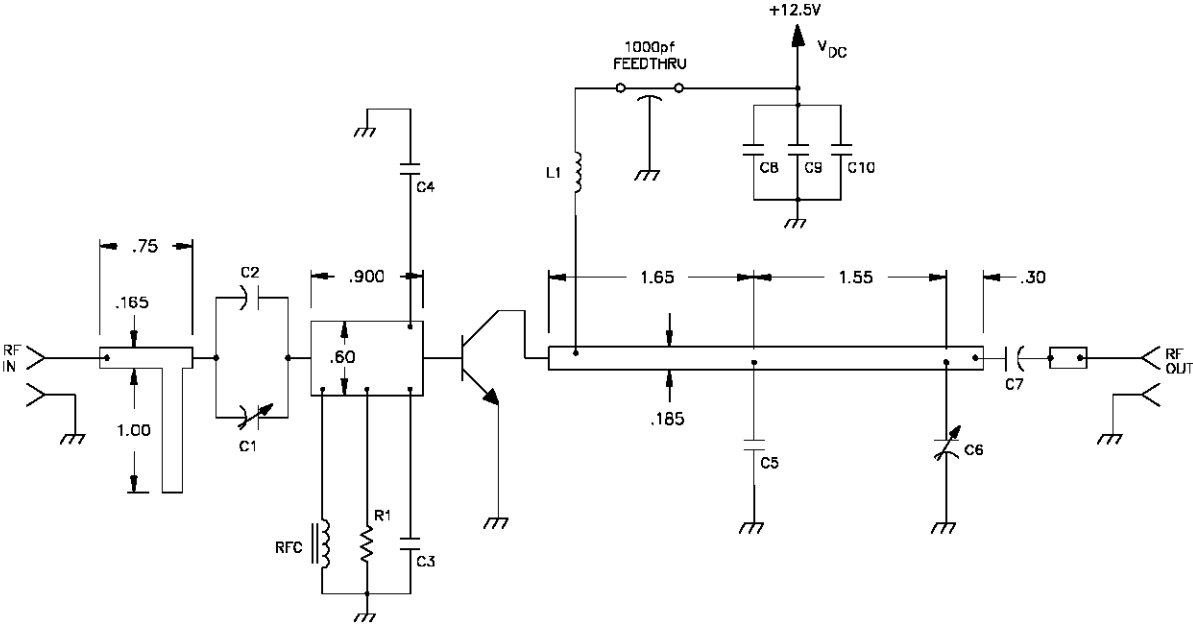


TYPICAL COLLECTOR LOAD IMPEDANCE



FREQ.	Z _{IN} (Ω)	Z _{CL} (Ω)
450 MHz	2.7 + j 0.9	11.5 - j 15.0
470 MHz	2.6 + j 1.3	12.2 - j 13.5
512 MHz	2.2 + j 1.7	12.7 - j 13.0

TEST CIRCUIT



C1 : 0.8-10pF, Voltronics AJ10

C2, : ATC 100-B, 7.5pF, Chip Capacitor

C3, C4 : ATC 100-B, 24pF, Chip Capacitor

C5 : ATC 100-B, 5.6pF, Chip Capacitor

C6 : 0.6-6pF, Johanson

C7 : ATC 100-B, 200pF, Chip Capacitor

C8 : 5.6μF Electrolytic

C9 : 0.1μF, Disc-Ceramic

C10 : 0.01μF, Disc-Ceramic

L1 : 2 Turns #22 Enameled 0.1" I.D.

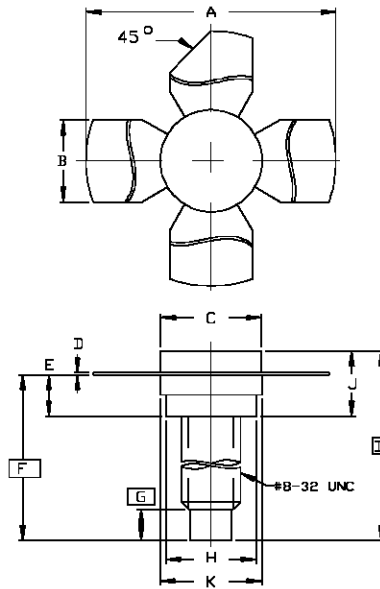
R1 : 360Ω, 1/4" Wide

RFC : 2 Turns in Ferroxcube VK 200/19-4B

Board Material: 3M-K-6098 1/16" Thick

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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