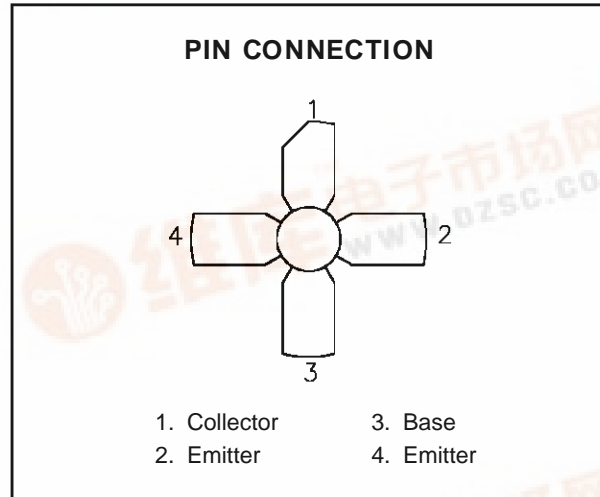
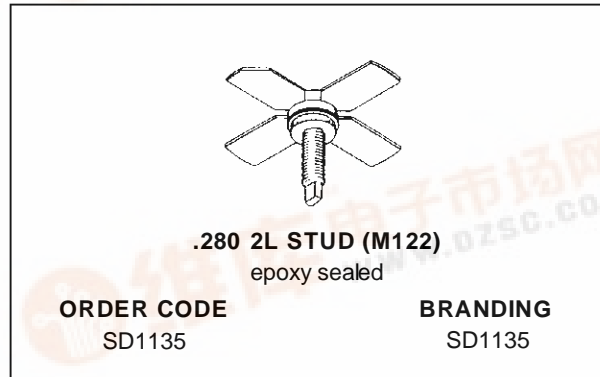




SD1135

**RF & MICROWAVE TRANSISTORS
UHF MOBILE APPLICATIONS**

- 470 MHz
- 12.5 VOLTS
- EFFICIENCY 60%
- COMMON EMITTER
- P_{OUT} = 5.0 W MIN. WITH 8.5 dB GAIN



DESCRIPTION

The SD1135 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 _{CBO}	Collector-Base Voltage	36	V
V _{CER}	Collector-Emitter Voltage	18	V
V _{CES}	Collector-Emitter Voltage	36	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _c	Device Current	2.0	A
P _{DISS}	Power Dissipation	37	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	11.6	°C/W
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找 THERMAL DATA
pdf.dzsc.com

SD1135

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

STATIC

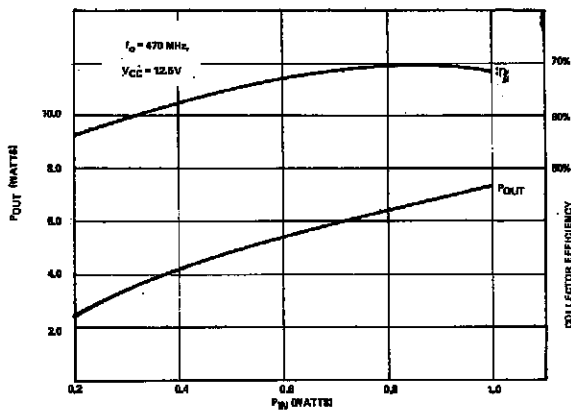
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CES}	I _C = 10mA	V _{BE} = 0mA	36	—	—	V
BV _{CEO}	I _C = 50mA	I _B = 0mA	16	—	—	V
BV _{EBO}	I _E = 2mA	I _C = 0mA	4.0	—	—	V
I _{CB0}	V _{CB} = 15V	I _E = 0mA	—	—	1	mA
h _{FE}	V _{CE} = 5V	I _C = 200mA	20	—	—	—

DYNAMIC

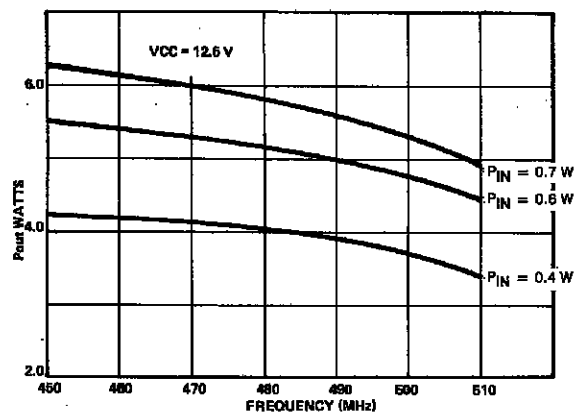
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 470 MHz	P _{IN} = 0.70 W	V _{CC} = 12.5 V	5.0	—	—	W
G _P	f = 470 MHz	P _{IN} = 0.70 W	V _{CC} = 12.5 V	8.5	—	—	dB
C _{OB}	f = 1 MHz	V _{CB} = 12 V		—	19	—	pF

TYPICAL PERFORMANCE

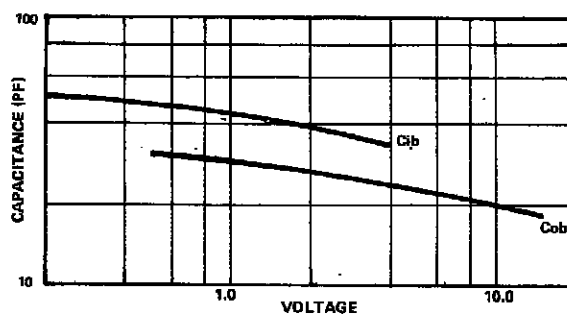
POWER OUTPUT vs POWER INPUT



POWER OUTPUT vs FREQUENCY

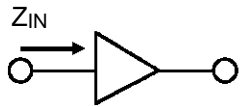


CAPACITANCE vs VOLTAGE

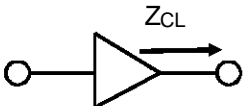


IMPEDANCE DATA

TYPICAL INPUT IMPEDANCE

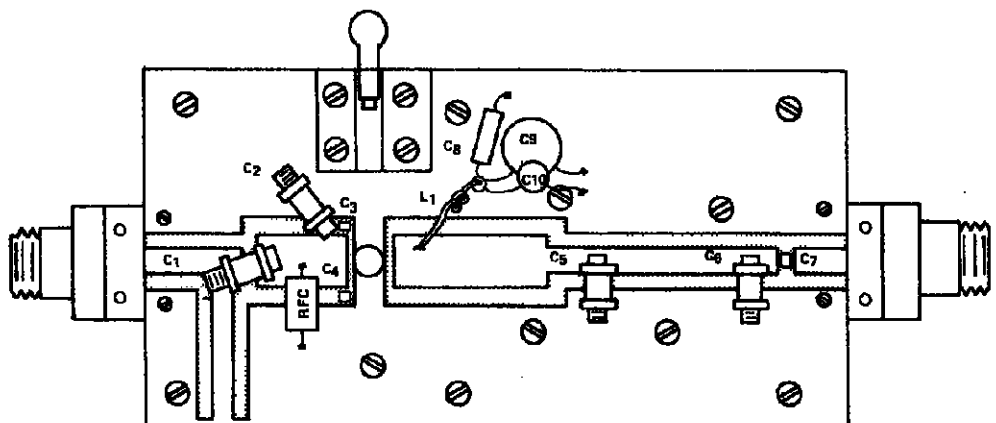
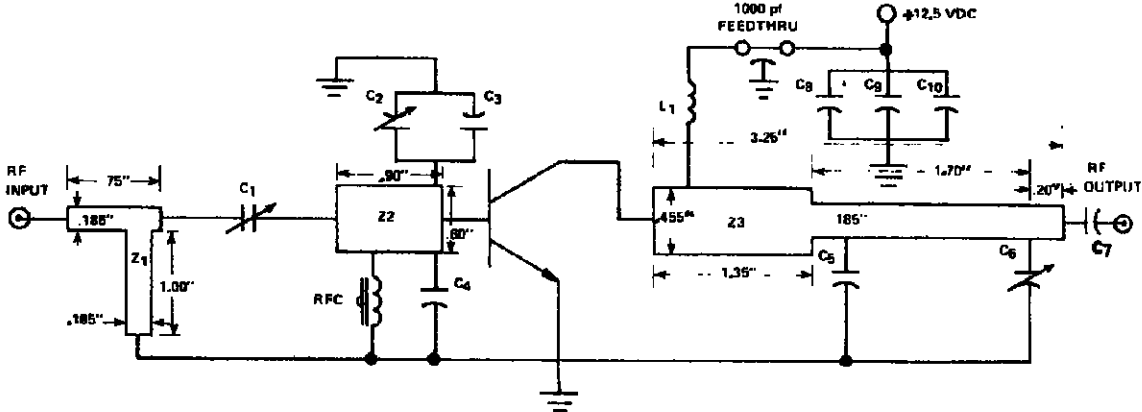


TYPICAL COLLECTOR LOAD IMPEDANCE



FREQ.	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
450 MHz	$1.4 + j 2.0$	$10.7 - j 6.9$
470 MHz	$1.4 + j 2.9$	$11.4 - j 5.8$
512 MHz	$1.5 + j 3.4$	$11.9 - j 3.2$

TEST CIRCUIT

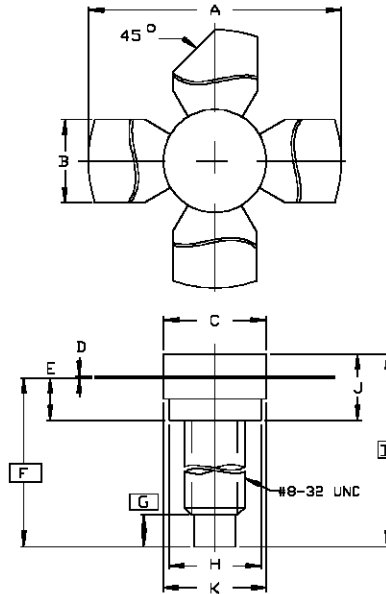
- C1, C2 : 0.8-10pF, Voltronics AJ10
- C3, C4 : ATC 100-B, 16pF, Chip Capacitor
- C7 : ATC 100-B, 620pF, Chip Capacitor
- C8 : 5.6 μ F, 35V, Electrolytic
- C9 : 0.1 μ F, Disc-Ceramic
- C10 : 0.01 μ F, Disc-Ceramic
- L1 : 2 Turns, #22 Enameled, 0.1" I.D.
- RFC : 2 Turns in Ferroxcube VK 200/19-4B

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

SD1135

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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