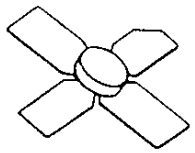
SGS-THOMSON MICROELECTRONICS

SD1135-03

RF & MICROWAVE TRANSISTORS VHF PORTABLE/MOBILE APPLICATIONS

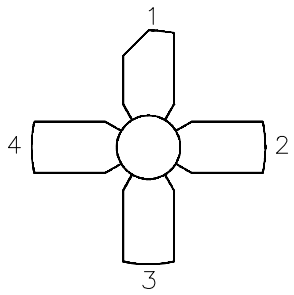
- 150 MHz
- 7.5 VOLTS
- COMMON EMITTER
- P_{OUT} = 2.5 W MIN. WITH 11.0 dB GAIN



.280 4LSL (M123)
epoxy sealed

ORDER CODE	BRANDING
SD1135-03	1135-3

PIN CONNECTION



1. Collector
2. Emitter
3. Base
4. Emitter

DESCRIPTION

The SD1135-03 is a 7.5 V Class C epitaxial silicon NPN planar transistor designed primarily for VHF communications. It withstands severe mismatch under 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	16	V
V_{CES}	Collector-Emitter Voltage	36	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	1.7	A
P_{DISS}	Power Dissipation	15	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

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

STATIC

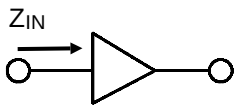
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	I_C = 10mA	V_{BE} = 0V	36	—	—	V
BV_{CEO}	I_C = 50mA	I_B = 0mA	16	—	—	V
BV_{EBO}	I_E = 2mA	I_C = 0mA	4.0	—	—	V
I_{CER}	V_{CE} = 10V	R_{BE} = 50Ω	—	—	0.5	mA
I_{CBO}	V_{CB} = 15V	I_E = 0mA	—	—	1.0	mA
h_{FE}	V_{CE} = 5V	I_C = 200mA	20	—	—	—

DYNAMIC

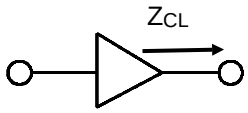
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_{OUT}	f = 150 MHz	V_{CC} = 7.5 V	2.5	—	—	W
G_P	f = 150 MHz	V_{CC} = 7.5 V	11.0	—	—	dB
C_{OB}	f = 1 MHz	V_{CB} = 7.5 V	—	19	—	pF

IMPEDANCE DATA

TYPICAL INPUT IMPEDANCE



TYPICAL COLLECTOR LOAD IMPEDANCE

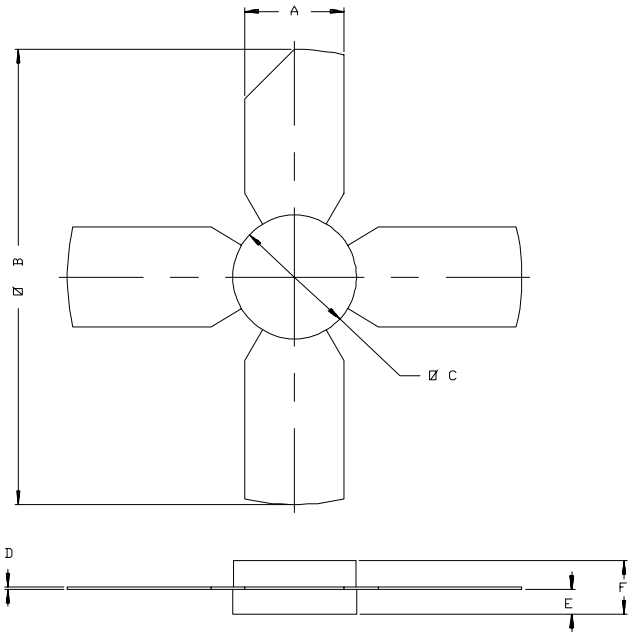


FREQ.	Z_{IN} (Ω)	Z_{CL} (Ω)
150 MHz	2.2 – j 0.4	7.9 + j 8.4
160 MHz	1.9 – j 0.8	7.6 + j 8.2
170 MHz	1.0 – j 1.0	6.0 + j 8.3

P_{OUT} = 2.5W
V_{CE} = 7.5V

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0123



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.220/5,59	.230/5,84
B	------	1.055/26,8
C	.275/6,99	.285/7,24
D	.004/0,10	.006/0,15
E	.050/1,27	.060/1,52
F	.118/3,00	.130/3,30