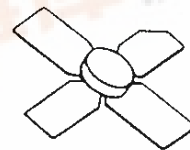



SD1135-03

RF & MICROWAVE TRANSISTORS VHF PORTABLE/MOBILE APPLICATIONS

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

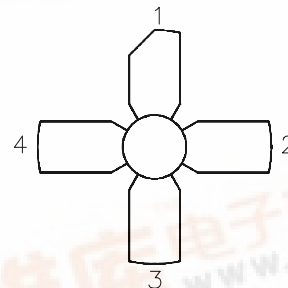


.280 4LSL (M123)
epoxy sealed

ORDER CODE
SD1135-03

BRANDING
1135-3

PIN CONNECTION



1. Collector 3. Base
2. Emitter 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 ($T_{case} = 25^{\circ}\text{C}$)

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	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	11.6	$^{\circ}\text{C/W}$
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SD1135-03

ELECTRICAL SPECIFICATIONS ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	$I_{\text{C}} = 10\text{mA}$	$V_{\text{BE}} = 0\text{V}$	36	—	—	V
BV_{CEO}	$I_{\text{C}} = 50\text{mA}$	$I_{\text{B}} = 0\text{mA}$	16	—	—	V
BV_{EBO}	$I_{\text{E}} = 2\text{mA}$	$I_{\text{C}} = 0\text{mA}$	4.0	—	—	V
I_{CER}	$V_{\text{CE}} = 10\text{V}$	$R_{\text{BE}} = 50\Omega$	—	—	0.5	mA
I_{CBO}	$V_{\text{CB}} = 15\text{V}$	$I_{\text{E}} = 0\text{mA}$	—	—	1.0	mA
h_{FE}	$V_{\text{CE}} = 5\text{V}$	$I_{\text{C}} = 200\text{mA}$	20	—	—	—

DYNAMIC

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

IMPEDANCE DATA

TYPICAL INPUT IMPEDANCE

A circuit diagram of a BJT transistor in common-emitter configuration. An arrow labeled Z_{IN} points into the base terminal of the transistor, which is represented by a triangle with a circle at its base. The collector terminal is connected to an output terminal, represented by a circle.

FREQ.	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
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	$1.0 - j 1.0$	$6.0 + j 8.3$

TYPICAL COLLECTOR LOAD IMPEDANCE

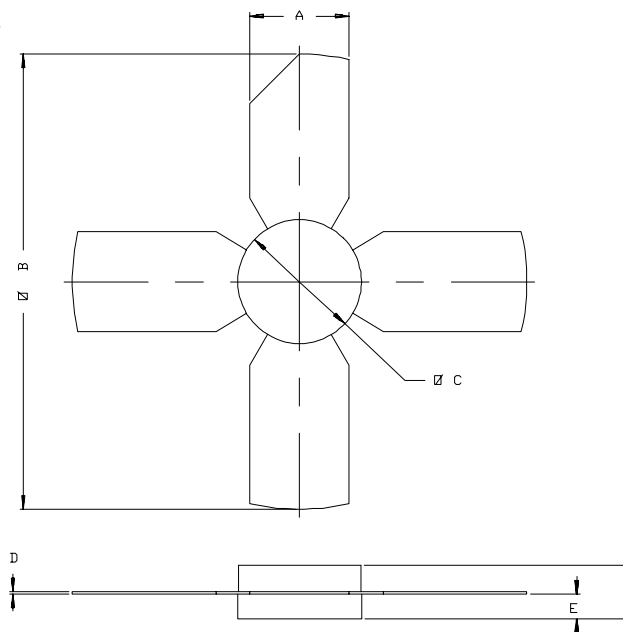
A circuit diagram of a BJT transistor in common-emitter configuration. The base terminal is connected to an input terminal, represented by a circle. An arrow labeled Z_{CL} points out from the collector terminal of the transistor, which is represented by a triangle with a circle at its base. The emitter terminal is connected to an output terminal, represented by a circle.

$$P_{OUT} = 2.5W$$

$$V_{CE} = 7.5V$$

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

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