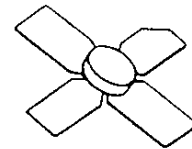


## RF & MICROWAVE TRANSISTORS VHF PORTABLE/MOBILE APPLICATIONS

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

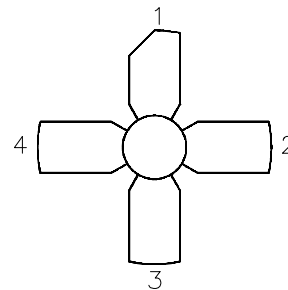


**.280 4LSL (M123)**  
epoxy sealed

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

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

**DYNAMIC**

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

**IMPEDANCE DATA**

### TYPICAL INPUT IMPEDANCE

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

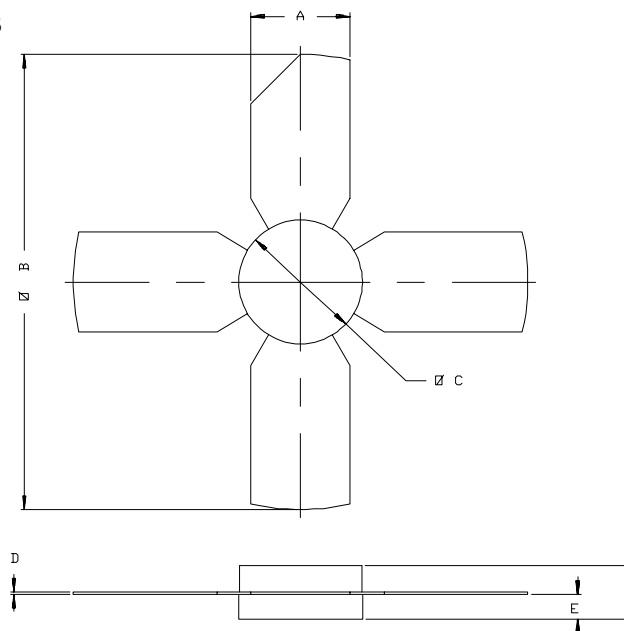
### TYPICAL COLLECTOR LOAD IMPEDANCE

$$P_{\text{OUT}} = 2.5\text{W}$$

$$V_{\text{CE}} = 7.5\text{V}$$

## 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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