

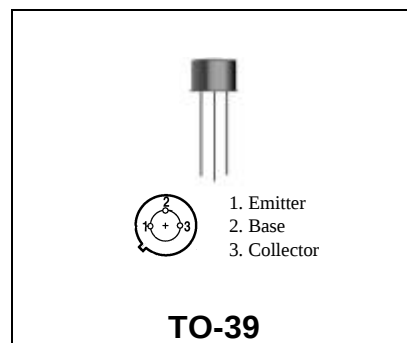
RF & MICROWAVE TRANSISTORS
VHF FM MOBILE APPLICATIONS

Features

- 175 MHz
- 12.5 VOLTS
- $P_{OUT} = 4.0$ W MINIMUM
- $G_p = 12.0$ dB
- GROUNDED EMITTER

DESCRIPTION:

The SD1127 is a epitaxial silicon NPN transistor designed primarily for VHF mobile communications. The chip of this transistor is mounted on a beryllia pill to isolate the collector lead and ground the emitter lead for high gain performance



ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	18	V
V_{CES}	Collector-Emitter Voltage	36	V
V_{EBO}	Emitter – Base Voltage	4.0	V
I_C	Collector Current	.64	A
P_{tot}	Total Power Dissipation	8.0	W
T_{STG}	Storage Temperature	-65 + 200	°C
T_J	Junction Temperature	+200	°C

Thermal Data

$R_{TH(J-C)}$	Junction-case Thermal Resistance	21.9	°C/W
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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	$I_C = 5 \text{ mA}$	$V_{BE} = 0$	36	---	---	V
BV_{CEO}	$I_C = 10 \text{ mA}$	$I_B = 0$	18	---	---	V
BV_{EBO}	$I_E = 1 \text{ mA}$	$I_C = 0$	4.0	---	---	V
I_{CBO}	$V_{CB} = 15.0 \text{ V}$	$I_E = 0$	---	---	.25	mA
H_{FE}	$V_{CE} = 5.0 \text{ V}$	$I_C = 50 \text{ mA}$	10	---	100	---

DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_{OUT}	$f = 175 \text{ MHz}$	$V_{CE} = 12.5 \text{ V}$	4.0	---	---	W
G_{PE}	$f = 175 \text{ MHz}$	$V_{CE} = 12.5 \text{ V}$	12.0	---	---	dB
C_{ob}	$f = 1 \text{ MHz}$	$V_{CE} = 15.0 \text{ V}$	---	---	20.0	pf

IMPEDANCE DATA

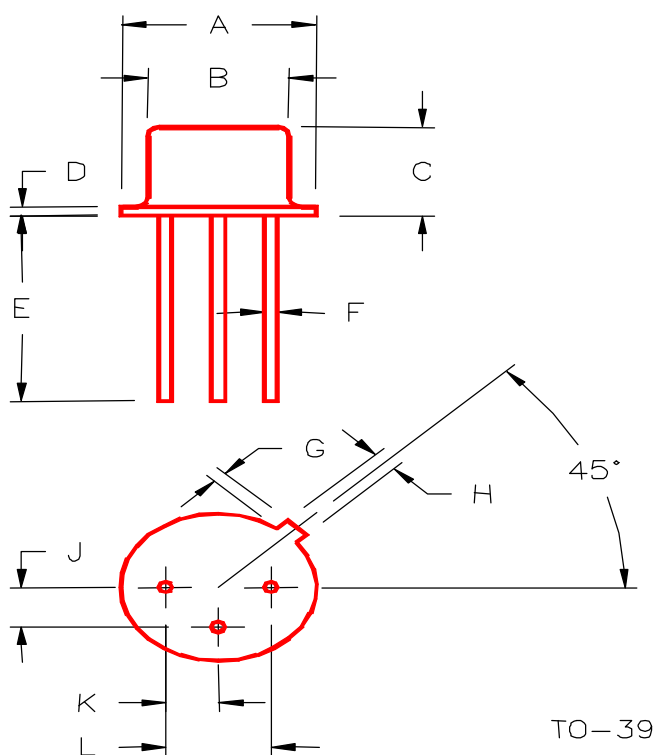
FREQ	$Z_{IN}(\Omega)$	$Z_{CL}(\Omega)$
136 MHz	3.0 – j3.8	12.8 – j11
155 MHz	4.0 – j2.0	11 – j14.8
175 MHz	4.3 – j5.8	13 – j20

$P_{IN} = 0.2W$

$V_{CC} = 12.6V$

PACKAGE MECHANICAL DATA

PACKAGE STYLE M246



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.350/8,89	.370/9,40	J	.095/2,41	.105/2,67
B	.315/8,00	.335/8,51	K	.095/2,41	.105/2,67
C	.240/6,10	.260/6,60	L	.190/4,83	.210/5,33
D	.015/0,38	.045/1,14			
E	.500/12,70				
F	.016/0,41	.019/0,48			
G	.029/0,74	.040/1,02			
H	.028/0,71	.034/0,86			