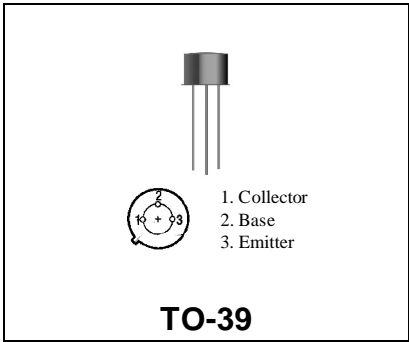


SD1127

**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 |
|----------------------|----------------------------------|------|------|

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

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

DYNAMIC

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

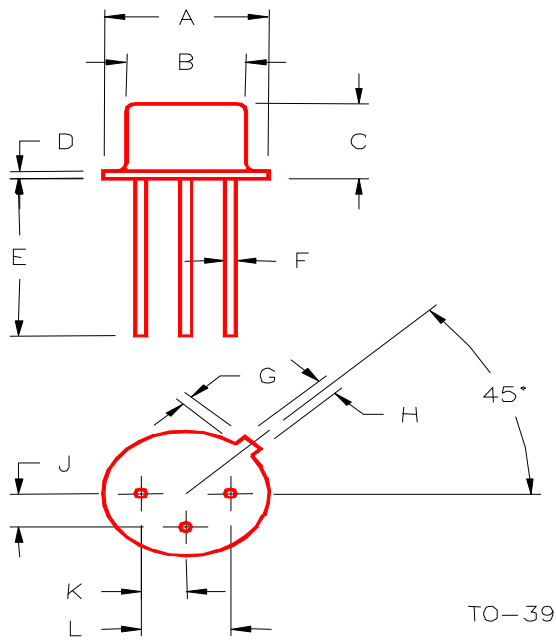
IMPEDANCE DATA

| FREQ | Z _{IN} (Ω) | Z _{CL} (Ω) |
|----------------|---------------------|---------------------|
| 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 | | | |