# 2SC1252

# NPN SILICON HIGH FREQUENCY TRANSISTOR

## DESCRIPTION:

The **2SC1252** is a High Frequency Transistor, Designed for Wide Band Amplifier Applications up to 500 MHz.

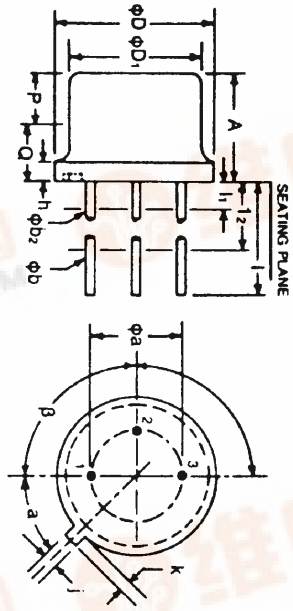
## FEATURES INCLUDE:

- High Gain **-17 dB Typ.** @ 200 MHz
- Low **NF - 3.0 dB Typ.** @ 200 MHz
- Hermetic **TO-39** Package

## MAXIMUM RATINGS

| | |
|---|---|
| $I_C$ | 400 mA |
| $V_{CB}$ | 45 V |
| $V_{CE}$ | 25 V |
| $P_{DISS}$ | 5 W @ $T_C$ = 25 °C |
| $T_J$ | -65 to +200 °C |
| $T_{STG}$ | -65 to +200 °C |
| $\theta_{JC}$ | 35 °C/W |

## PACKAGE STYLE TO-39




| SYMBOL | DIMENSIONS | | | |
|---|---|---|---|---|
| | INCHES | | MILLIMETERS | |
| | MIN. | MAX. | MIN. | MAX. |
| Φa | 0.190 | 0.210 | 4.83 | 5.33 |
| A | 0.240 | 0.260 | 6.10 | 6.60 |
| Φb | 0.016 | 0.021 | 0.406 | 0.533 |
| Φb2 | 0.016 | 0.019 | 0.406 | 0.483 |
| ΦD | 0.350 | 0.370 | 8.89 | 9.40 |
| ΦD1 | 0.315 | 0.335 | 8.00 | 8.51 |
| h | 0.009 | 0.125 | 0.229 | 3.18 |
| j | 0.028 | 0.034 | 0.711 | 0.864 |
| k | 0.029 | 0.040 | 0.737 | 1.02 |
| l | 0.500 | | 12.70 | |
| l1 | | 0.050 | | 1.27 |
| l2 | 0.250 | | 6.35 | |
| P | 0.100 | | 2.54 | |
| Q | | | | |
| α | 45° NOMINAL | | | |
| β | 90° NOMINAL | | | |

1 = Emitter 2 = Base
3 & 4 = Collector (Case)

## CHARACTERISTICS $T_C$ = 25 °C

| SYMBOL | TEST CONDITIONS | | | MINIMUM | TYPICAL | MAXIMUM | UNITS |
|---|---|---|---|---|---|---|---|
| $BV_{CEO}$ | $I_C$ = 5.0 mA | | | 25 | | | V |
| $BV_{CBO}$ | $I_C$ = 100 µA | | | 45 | | | V |
| $I_{CBO}$ | $V_{CE}$ = 30 V | | | | | 100 | nA |
| $I_{EBO}$ | $V_{EB}$ = 2.0 V | | | | | 500 | nA |
| $h_{FE}$ | $V_{CE}$ = 10 V | $I_C$ = 50 mA | | 20 | | 200 | --- |
| $f_t$ | $V_{CE}$ = 15 V<br>$V_{CE}$ = 15 V | $I_C$ = 15 mA<br>$I_C$ = 70 mA | f = 200 MHz | 1200<br>1400 | | | MHz |
| $C_{OB}$ | $V_{CB}$ = 15 V | | f = 1.0 MHz | | | 3.0 | pF |
| $G_{PE}$ | $V_{CE}$ = 15 V | $I_C$ = 50 mA | f = 200 MHz | 15 | 17 | | dB |
| NF | $V_{CE}$ = 15 V | $I_C$ = 30 mA | f = 200 MHz | | 3.0 | 4.0 | dB |