

# NPN SILICON HIGH FREQUENCY TRANSISTOR

**DESCRIPTION:**

The **2SC2952** is a High Frequency Transistor Designed for General Purpose VHF-UHF Amplifier Applications.

**MAXIMUM RATINGS**

|               |                            |
|---------------|----------------------------|
| $I_C$         | 250 mA                     |
| $V_{CE}$      | 30 V                       |
| $P_{DISS}$    | 3.5 W @ $T_C = 25^\circ C$ |
| $T_J$         | -65 to +200 $^\circ C$     |
| $T_{STG}$     | -65 to +200 $^\circ C$     |
| $\theta_{JC}$ | 50 $^\circ C/W$            |

| PACKAGE STYLE TO-39 |             |       |             |       |
|---------------------|-------------|-------|-------------|-------|
| SYMBOL              | DIMENSIONS  |       |             |       |
|                     | INCHES      |       | MILLIMETERS |       |
|                     | MIN.        | MAX.  | MIN.        | MAX.  |
| $\phi a$            | 0.190       | 0.210 | 4.83        | 5.33  |
| A                   | 0.240       | 0.260 | 6.10        | 6.60  |
| $\phi b$            | 0.016       | 0.021 | 0.406       | 0.533 |
| $\phi b_2$          | 0.016       | 0.019 | 0.406       | 0.483 |
| $\phi D$            | 0.350       | 0.370 | 8.89        | 9.40  |
| $\phi D_1$          | 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       |       |
| $l_1$               |             | 0.050 |             | 1.27  |
| $l_2$               | 0.250       |       | 6.35        |       |
| P                   | 0.100       |       | 2.54        |       |
| Q                   |             |       |             |       |
| a                   | 45° NOMINAL |       |             |       |
| $\beta$             | 90° NOMINAL |       |             |       |

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

**CHARACTERISTICS**  $T_C = 25^\circ C$ 

| SYMBOL        | TEST CONDITIONS         |                       |                       | MINIMUM | TYPICAL | MAXIMUM | UNITS   |
|---------------|-------------------------|-----------------------|-----------------------|---------|---------|---------|---------|
| $BV_{CEO}$    | $I_C = 1.0 \text{ mA}$  |                       |                       | 20      |         |         | V       |
| $BV_{CBO}$    | $I_C = 100 \mu A$       |                       |                       | 30      |         |         | V       |
| $BV_{EBO}$    | $I_E = 100 \mu A$       |                       |                       | 3       |         |         | V       |
| $I_{CBO}$     | $V_{CB} = 20 \text{ V}$ |                       |                       |         |         | 10      | $\mu A$ |
| $h_{FE}$      | $V_{CE} = 10 \text{ V}$ | $I_C = 80 \text{ mA}$ |                       | 30      | 80      | 200     | ---     |
| $f_t$         | $V_{CE} = 10 \text{ V}$ | $I_E = 60 \text{ mA}$ | $f = 200 \text{ MHz}$ | 2800    | 3300    |         | MHz     |
| $C_{CB}$      | $V_{CB} = 10 \text{ V}$ |                       |                       |         |         | 2.5     | pF      |
| $ S_{21E} ^2$ | $V_{CE} = 10 \text{ V}$ | $I_E = 60 \text{ mA}$ | $f = 500 \text{ MHz}$ | 8.5     |         |         | dB      |
| NF            | $V_{CE} = 10 \text{ V}$ | $I_C = 10 \text{ mA}$ | $f = 500 \text{ MHz}$ |         | 3.5     |         | dB      |