

Silicon NPN RF Transistor

2SC5772

DESCRIPTION

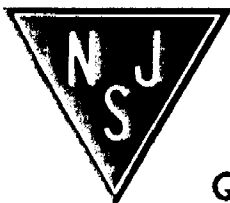
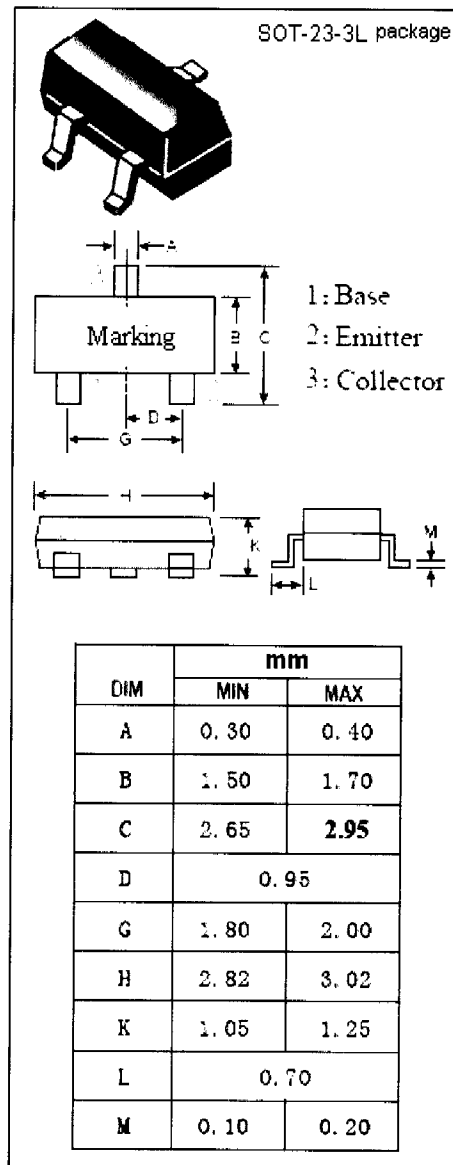
- High Gain Bandwidth Product
 $f_T = 9 \text{ GHz TYP.}$
- High power gain and low noise figure ;
 $PG = 13 \text{ dB TYP.}, NF = 1.1 \text{ dB typ. @ } f = 900 \text{ MHz}$

APPLICATIONS

- Designed for use in UHF ~ VHF wide band amplifier.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 15 | V |
| V_{CEO} | Collector-Emitter Voltage | 9 | V |
| V_{EBO} | Emitter-Base Voltage | 1.5 | V |
| I_C | Collector Current-Continuous | 75 | mA |
| P_C | Collector Power Dissipation @ $T_c=25^\circ\text{C}$ | 0.7 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{sig} | Storage Temperature Range | -55~150 | $^\circ\text{C}$ |



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Quality Semi-Conductors

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ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---------------|----------------------------------|--|-----|------|-----|---------------|
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage | $I_C = 10 \mu\text{A}; I_E = 0$ | 15 | | | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB} = 12\text{V}; I_E = 0$ | | | 1 | μA |
| I_{CEO} | Collector Cutoff Current | $V_{CE} = 9\text{V}; R_{BE} = \infty$ | | | 1 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = 1.5\text{V}; I_C = 0$ | | | 10 | μA |
| h_{FE} | DC Current Gain | $I_C = 20\text{mA}; V_{CE} = 5\text{V}$ | 80 | | 160 | |
| f_T | Current-Gain—Bandwidth Product | $I_C = 20\text{mA}; V_{CE} = 5\text{V}; f = 1\text{GHz}$ | 6 | 9 | | GHz |
| C_{OB} | Output Capacitance | $I_E = 0; V_{CB} = 5\text{V}; f = 1.0\text{MHz}$ | | 0.9 | 1.5 | pF |
| C_{re} | Reverse Transfer Capacitance | $I_E = 0; V_{CB} = 5\text{V}; f = 1.0\text{MHz}$ | | 0.7 | | pF |
| $ S_{21e} ^2$ | Insertion Power Gain | $I_C = 20\text{mA}; V_{CE} = 5\text{V}; f = 1\text{GHz}$ | | 11.8 | | dB |
| PG | Power Gain | $I_C = 20\text{mA}; V_{CC} = 5\text{V}; f = 900\text{MHz}$ | 9.5 | 13 | | dB |
| NF | Noise Figure | $I_C = 5\text{mA}; V_{CC} = 5\text{V}; f = 900\text{MHz}$ | | 1.1 | 1.9 | dB |

