

## Silicon PNP Power Transistors

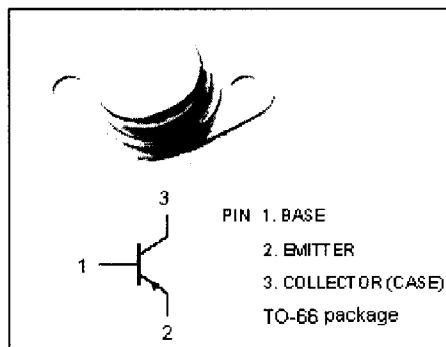
**2N5603**

### DESCRIPTION

- DC Current Gain-  
:  $h_{FE} = 30-90 @ I_C = -1A$
- Wide Area of Safe Operation
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = -100V(\text{Min})$
- Complement to Type 2N5604

### APPLICATIONS

- Designed for use in high frequency power amplifiers, audio power amplifier and drivers.

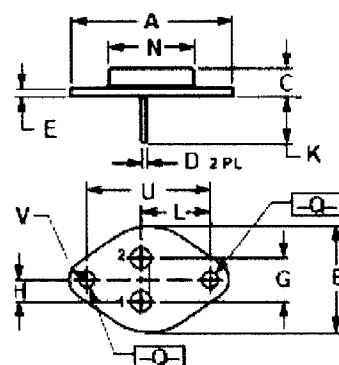


### ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

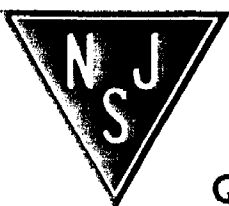
| SYMBOL    | PARAMETER                                           | VALUE   | UNIT             |
|-----------|-----------------------------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                              | -120    | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                           | -100    | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                | -5      | V                |
| $I_C$     | Collector Current-Continuous                        | -2      | A                |
| $P_C$     | Collector Power Dissipation@ $T_C=25^\circ\text{C}$ | 20      | W                |
| $T_J$     | Junction Temperature                                | 150     | $^\circ\text{C}$ |
| $T_{slg}$ | Storage Temperature                                 | -65~150 | $^\circ\text{C}$ |

### THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                            | MAX  | UNIT               |
|--------------|--------------------------------------|------|--------------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 4.37 | $^\circ\text{C/W}$ |



| DIM | MIN   | MAX   |
|-----|-------|-------|
| A   | 31.40 | 31.80 |
| B   | 17.30 | 17.70 |
| C   | 6.70  | 7.10  |
| D   | 0.70  | 0.90  |
| E   | 1.40  | 1.60  |
| G   | 5.08  |       |
| H   | 2.54  |       |
| K   | 9.80  | 10.20 |
| L   | 14.70 | 14.90 |
| N   | 12.40 | 12.60 |
| Q   | 3.60  | 3.80  |
| U   | 24.30 | 24.50 |
| V   | 3.50  | 3.70  |



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# Silicon PNP Power Transistors

2N5603

## ELECTRICAL CHARACTERISTICS

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

| SYMBOL         | PARAMETER                            | CONDITIONS                                    | MIN  | MAX  | UNIT |
|----------------|--------------------------------------|-----------------------------------------------|------|------|------|
| $V_{CEQ(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C = -50\text{mA}$ ; $I_B = 0$              | -100 |      | V    |
| $V_{CE(sat)}$  | Collector-Emitter Saturation Voltage | $I_C = -1\text{A}$ ; $I_B = -0.1\text{A}$     |      | -1.0 | V    |
| $V_{BE(on)}$   | Base-Emitter On Voltage              | $I_C = -1\text{A}$ ; $V_{CE} = -5\text{V}$    |      | -1.5 | V    |
| $I_{CEO}$      | Collector Cutoff Current             | $V_{CE} = -80\text{V}$ ; $I_B = 0$            |      | -1.0 | mA   |
| $I_{CBO}$      | Collector Cutoff Current             | $V_{CB} = -100\text{V}$ ; $I_E = 0$           |      | -0.1 | mA   |
| $I_{EBO}$      | Emitter Cutoff Current               | $V_{EB} = -5\text{V}$ ; $I_C = 0$             |      | -0.1 | mA   |
| $h_{FE}$       | DC Current Gain                      | $I_C = -1\text{A}$ ; $V_{CE} = -5\text{V}$    | 30   | 90   |      |
| $f_T$          | Current-Gain—Bandwidth Product       | $I_C = -0.5\text{A}$ ; $V_{CE} = -10\text{V}$ | 50   |      | MHz  |