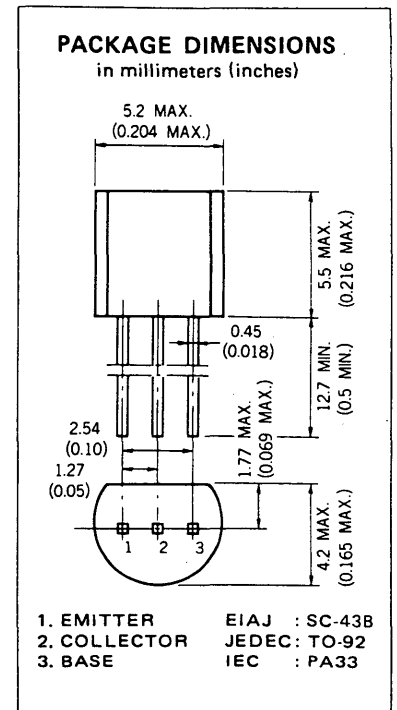


DESCRIPTION The 2SC2003 is designed for use in driver stage of high voltage audio equipments.

- FEATURES**
- High total power dissipation.
 P_T : 600 mW
 - High h_{FE} and high voltage.
 h_{FE} ($I_C = 50$ mA) : 200 TYP.
 V_{CEO} : 80 V

ABSOLUTE MAXIMUM RATINGS

| | |
|--|-----------------|
| Maximum Temperatures | |
| Storage Temperature | -55 to +150 °C |
| Junction Temperature | +150 °C Maximum |
| Maximum Power Dissipation ($T_a = 25$ °C) | |
| Total Power Dissipation | 600 mW |
| Maximum Voltages and Currents ($T_a = 25$ °C) | |
| V_{CBO} Collector to Base Voltage | 80 V |
| V_{CEO} Collector to Emitter Voltage | 80 V |
| V_{EBO} Emitter to Base Voltage | 5.0 V |
| I_C Collector Current | 300 mA |
| I_B Base Current | 60 mA |



ELECTRICAL CHARACTERISTICS ($T_a = 25$ °C)

| SYMBOL | CHARACTERISTIC | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS |
|-----------------|-------------------------------|------|------|------|------|--|
| h_{FE1}^* | DC Current Gain | 90 | 200 | 400 | — | $V_{CE} = 1.0$ V, $I_C = 50$ mA |
| h_{FE2}^* | DC Current Gain | 30 | 80 | | — | $V_{CE} = 2.0$ V, $I_C = 300$ mA |
| C_{ob} | Collector to Base Capacitance | | 7.0 | 15 | pF | $V_{CB} = 6.0$ V, $I_E = 0$ $f = 1.0$ MHz |
| f_T | Gain Bandwidth Product | 50 | 140 | | MHz | $V_{CE} = 6.0$ V, $I_E = -10$ mA |
| V_{BE}^* | Base to Emitter Voltage | 600 | 645 | 700 | mV | $V_{CE} = 6.0$ V, $I_C = 10$ mA |
| $V_{CE(sat)}^*$ | Collector Saturation Voltage | | 0.15 | 0.6 | V | $I_C = 300$ mA, $I_B = 30$ mA |
| $V_{BE(sat)}^*$ | Base Saturation Voltage | | 0.86 | 1.2 | V | $I_C = 300$ mA, $I_B = 30$ mA |
| I_{CBO} | Collector Cutoff Current | | | 100 | nA | $V_{CB} = 80$ V, $I_E = 0$ |
| I_{EBO} | Emitter Cutoff Current | | | 100 | nA | $V_{EB} = 5.0$ V, $I_E = 0$ |

*Pulsed PW ≤ 350 μ s, duty cycle ≤ 2.0 %.

Classification of h_{FE1}

| Rank | M | L | K |
|-------|----------|-----------|-----------|
| Range | 90 - 180 | 135 - 270 | 200 - 400 |

h_{FE} Test Conditions : $V_{CE} = 1.0$ V, $I_C = 50$ mA

TYPICAL CHARACTERISTICS (Ta = 25 °C unless otherwise noted)

