

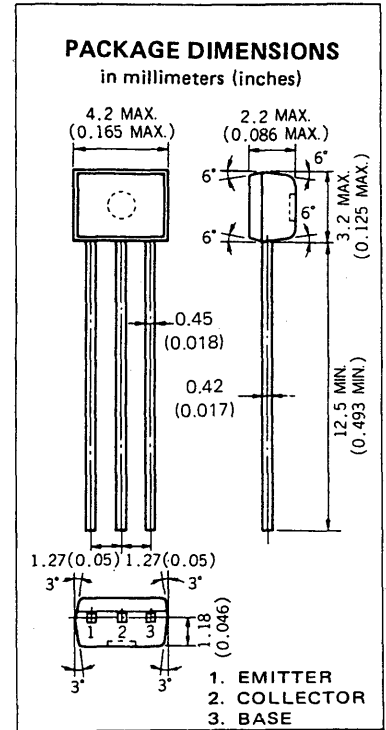
DESCRIPTION The 2SC3623 is designed for general-purpose applications requiring High DC Current Gain.
This is suitable for all kind of driving, instead of Darlington Transistor, or muting.

FEATURES

- High DC Current Gain.
 $h_{FE} = 1000$ to 3200 (@ $V_{CE} = 5.0$ V, $I_C = 1.0$ mA)
- Low Collector Saturation Voltage.
 $V_{CE(sat)} = 0.07$ V TYP. (@ $I_C = 50$ mA, $I_B = 5.0$ mA)
- High V_{EBO} : $V_{EBO} > 12$ 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 | 250 mW |
| Maximum Voltages and Currents ($T_a = 25$ °C) | |
| V_{CBO} Collector to Base Voltage | 60 V |
| V_{CEO} Collector to Emitter Voltage | 50 V |
| V_{EBO} Emitter to Base Voltage | 12 V |
| I_C Collector Current | 150 mA |
| I_B Base Current | 10 mA |



ELECTRICAL CHARACTERISTICS ($T_a = 25$ °C)

| SYMBOL | CHARACTERISTIC | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS |
|-----------------|------------------------------|------|------|------|---------|---|
| h_{FE1}^* | DC Current Gain | 1000 | 1800 | 3200 | - | $V_{CE} = 5.0$ V, $I_C = 1.0$ mA |
| h_{FE2}^* | DC Current Gain | 200 | 350 | | - | $V_{CE} = 5.0$ V, $I_C = 100$ mA |
| f_T | Gain Bandwidth Product | | 250 | | MHz | $V_{CE} = 5.0$ V, $I_C = -10$ mA |
| C_{ob} | Output Capacitance | | 3.0 | | pF | $V_{CB} = 5.0$ V, $I_E = 0$, $f = 1.0$ MHz |
| t_{on} | Turn-on Time | | 0.13 | | μ s | $V_{CC} = 10$ V, $V_{BE(off)} = -2.7$ V $I_C = 50$ mA $I_{B1} = -I_{B2} = 1.0$ mA |
| t_f | Storage Time | | 0.72 | | μ s | |
| t_{off} | Turn-off Time | | 1.22 | | μ s | |
| I_{CBO} | Collector Cutoff Current | | | 100 | nA | $V_{CB} = 50$ V, $I_E = 0$ |
| I_{EBO} | Emitter Cutoff Current | | | 100 | nA | $V_{EB} = 10$ V, $I_C = 0$ |
| V_{BE}^* | Base to Emitter Voltage | | 560 | | mV | $V_{CE} = 5.0$ V, $I_C = 1.0$ mA |
| $V_{CE(sat)}^*$ | Collector Saturation Voltage | | 0.07 | 0.30 | V | $I_C = 50$ mA, $I_B = 5.0$ mA |
| $V_{BE(sat)}^*$ | Base Saturation Voltage | | 0.8 | 1.2 | V | $I_C = 50$ mA, $I_B = 5.0$ mA |

*Marked items are Pulse Test : PW 350 μ s
Duty Cycle ≤ 2 %

Classification of h_{FE1}

| Rank | L | K |
|-------|--------------|--------------|
| Range | 1000 to 2000 | 1600 to 3200 |

Test Conditions: $V_{CE} = 5.0$ V, $I_C = 1.0$ mA

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

