

## NPN Transistors

### 2SC1623-HF

#### ■ Features

- High DC Current Gain:  
hFE = 200 TYP.  
VCE = 6.0 V, IC = 1.0 mA
- High Voltage: VCE0 = 50 V
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish

#### ■ Absolute Maximum Ratings Ta = 25°C

| Parameter                    | Symbol           | Rating      | Unit |
|------------------------------|------------------|-------------|------|
| Collector to base voltage    | V <sub>CB0</sub> | 60          | V    |
| Collector to emitter voltage | V <sub>CE0</sub> | 50          | V    |
| Emitter to base voltage      | V <sub>EB0</sub> | 5           | V    |
| Collector current (DC)       | I <sub>C</sub>   | 100         | mA   |
| Collector power dissipation  | P <sub>C</sub>   | 200         | mW   |
| Junction temperature         | T <sub>j</sub>   | 150         | °C   |
| Storage temperature range    | T <sub>stg</sub> | -55 to +150 | °C   |

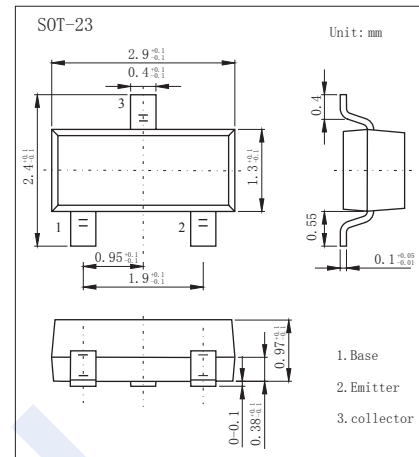
#### ■ Electrical Characteristics Ta = 25°C

| Parameter                              | Symbol               | Test Conditions                                      | Min  | Typ  | Max | Unit |
|--|----------------------|--|------|------|-----|------|
| Collector- base breakdown voltage      | V <sub>CB0</sub>     | I <sub>C</sub> = 100 μA, I <sub>E</sub> = 0          | 60   |      |     | V    |
| Collector- emitter breakdown voltage   | V <sub>CE0</sub>     | I <sub>C</sub> = 1 mA, I <sub>B</sub> = 0            | 50   |      |     |      |
| Emitter - base breakdown voltage       | V <sub>EB0</sub>     | I <sub>E</sub> = 100 μA, I <sub>C</sub> = 0          | 5    |      |     |      |
| Collector-base cut-off current         | I <sub>CB0</sub>     | V <sub>CB</sub> = 60 V, I <sub>E</sub> = 0           |      |      | 100 | nA   |
| Emitter cut-off current                | I <sub>EB0</sub>     | V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0            |      |      | 100 |      |
| Collector-emitter saturation voltage * | V <sub>CE(sat)</sub> | I <sub>C</sub> = 100 mA, I <sub>B</sub> = 10 mA      |      | 0.15 | 0.3 | V    |
| Base - emitter saturation voltage *    | V <sub>BE(sat)</sub> | I <sub>C</sub> = 100 mA, I <sub>B</sub> = 10 mA      |      | 0.86 | 1   |      |
| Base - emitter voltage *               | V <sub>BE</sub>      | V <sub>CE</sub> = 6 V, I <sub>C</sub> = 1 mA         | 0.55 |      | 0.7 |      |
| DC current gain *                      | h <sub>FE</sub>      | V <sub>CE</sub> = 6 V, I <sub>C</sub> = 1 mA         | 90   | 200  | 600 |      |
| Collector output capacitance           | C <sub>ob</sub>      | V <sub>CB</sub> = 6 V, I <sub>E</sub> = 0, f = 1 MHz |      | 3    |     | pF   |
| Transition frequency                   | f <sub>T</sub>       | V <sub>CE</sub> = 6 V, I <sub>E</sub> = -10 mA       |      | 250  |     | MHz  |

\*. PW ≤ 350 us, duty cycle ≤ 2%

#### ■ hFE Classification

| Type    | 2SC1623-L4-HF   | 2SC1623-L5-HF   | 2SC1623-L6-HF   | 2SC1623-L7-HF   |
|---------|-----------------|-----------------|-----------------|-----------------|
| Range   | 90-180          | 135-270         | 200-400         | 300-600         |
| Marking | L4 <sub>F</sub> | L5 <sub>F</sub> | L6 <sub>F</sub> | L7 <sub>F</sub> |



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■ Typical Characteristics

