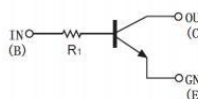


## FEATURES

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- Surface mount package ideally Suited for Automatic Insertion

### Equivalent Circuit



### SOT-323



**MARKING:06**

1. IN 2. GND 3. OUT

### MAXIMUM RATINGS (Ta=25 °C unless otherwise noted)

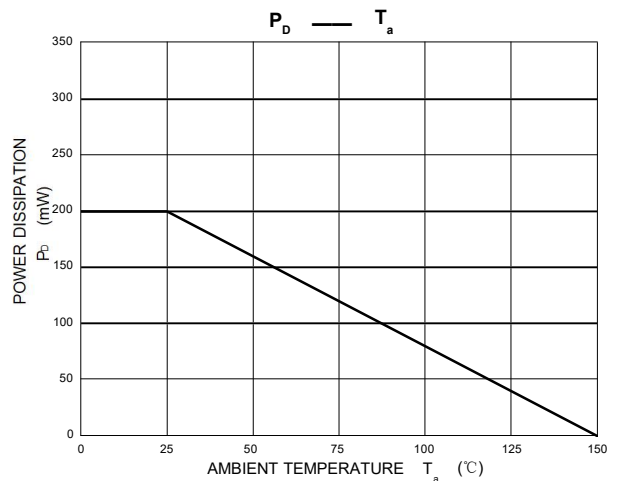
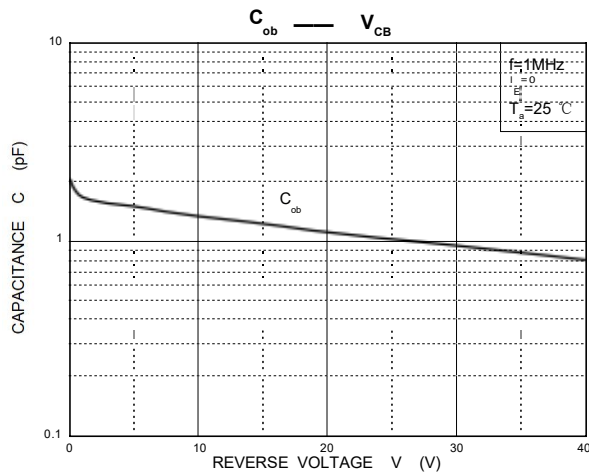
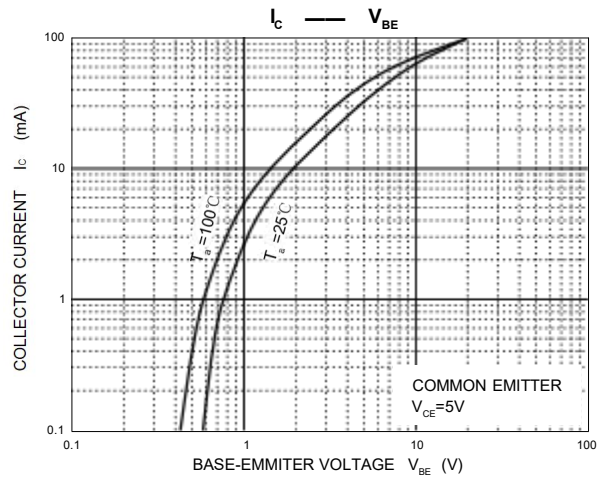
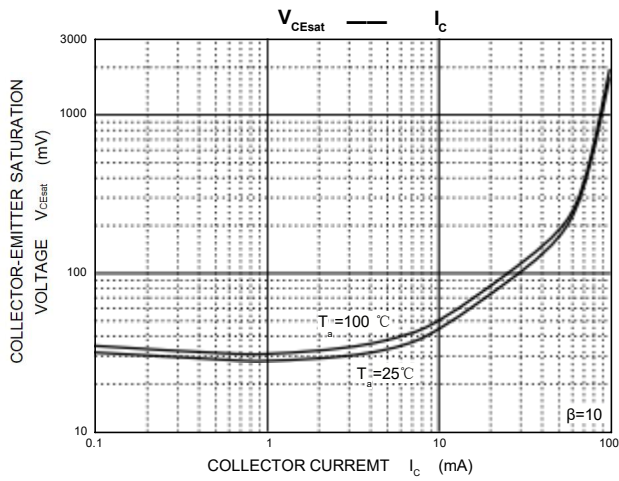
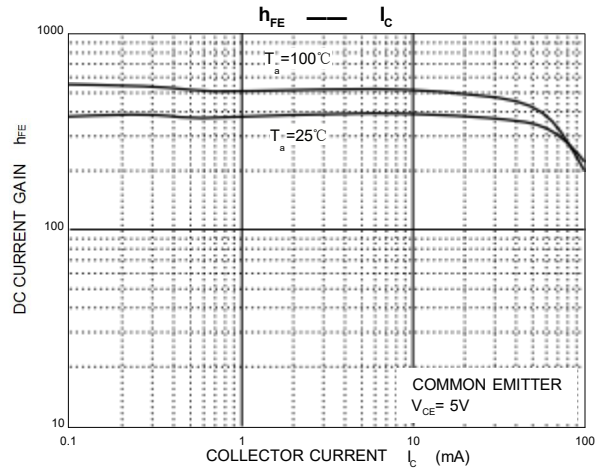
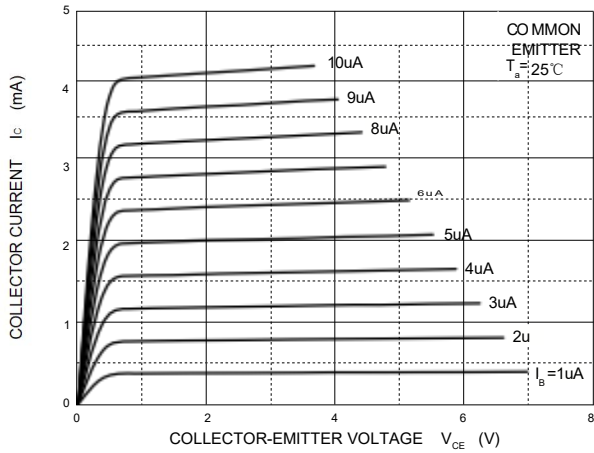
| Symbol                            | Parameter  | Limits     | Unit |
|-----------------------------------|--|------------|------|
| V <sub>CB0</sub>                  | Collector-Base Voltage                           | 50         | V    |
| V <sub>CEO</sub>                  | Collector-Emitter Voltage                        | 50         | V    |
| V <sub>EBO</sub>                  | Emitter-Base Voltage                             | 5          | V    |
| I <sub>C</sub>                    | Collector Current                                | 100        | mA   |
| P <sub>D</sub>                    | Power Dissipation                                | 200        | mW   |
| T <sub>J</sub> , T <sub>stg</sub> | Operation Junction and Storage Temperature Range | -55 ~ +150 | °C   |

### ELECTRICAL CHARACTERISTICS (Ta=25 °C unless otherwise specified)

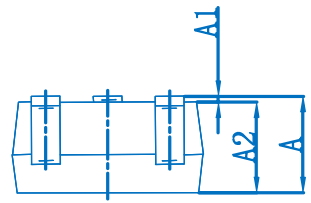
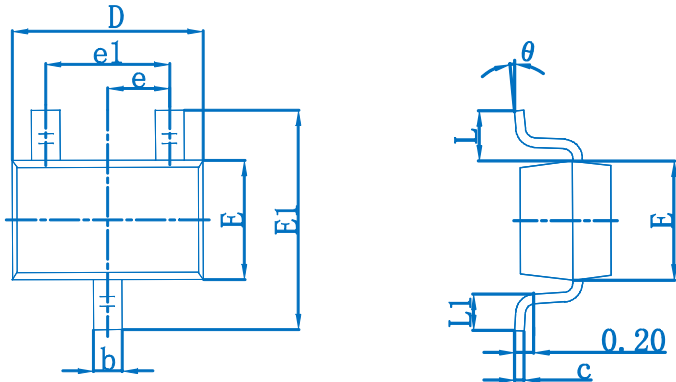
| Parameter                            | Symbol               | Conditions   | Min  | Typ | Max  | Unit |
|--------------------------------------|----------------------|--|------|-----|------|------|
| Collector-base breakdown voltage     | V <sub>(BR)CBO</sub> | I <sub>C</sub> =50μA, I <sub>E</sub> =0              | 50   |     |      | V    |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub> | I <sub>C</sub> =1mA, I <sub>B</sub> =0               | 50   |     |      | V    |
| Emitter-base breakdown voltage       | V <sub>(BR)EBO</sub> | I <sub>E</sub> =50μA, I <sub>C</sub> =0              | 5    |     |      | V    |
| Collector cut-off current            | I <sub>CB0</sub>     | V <sub>CB</sub> =50V, I <sub>E</sub> =0              |      |     | 0.5  | μA   |
| Emitter cut-off current              | I <sub>EBO</sub>     | V <sub>EB</sub> =4V, I <sub>C</sub> =0               |      |     | 0.5  | μA   |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =5mA, I <sub>B</sub> =0.5mA           |      |     | 0.3  | V    |
| DC current gain                      | h <sub>FE</sub>      | V <sub>CE</sub> =5V, I <sub>C</sub> =1mA             | 100  | 300 | 600  |      |
| Input resistor                       | R <sub>1</sub>       |  | 32.9 | 47  | 61.1 | kΩ   |
| Transition frequency                 | f <sub>T</sub>       | V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz |      | 250 |      | MHz  |

# Typical Characteristics

**Static Characteristic**

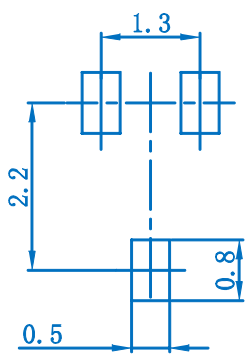


**SOT-323 Package Outline Dimensions**



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 0.900                     | 1.100 | 0.035                | 0.043 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                     | 1.000 | 0.035                | 0.039 |
| b      | 0.200                     | 0.400 | 0.008                | 0.016 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 2.000                     | 2.200 | 0.079                | 0.087 |
| E      | 1.150                     | 1.350 | 0.045                | 0.053 |
| E1     | 2.150                     | 2.450 | 0.085                | 0.096 |
| e      | 0.650 TYP                 |       | 0.026 TYP            |       |
| e1     | 1.200                     | 1.400 | 0.047                | 0.055 |
| L      | 0.525 REF                 |       | 0.021 REF            |       |
| L1     | 0.260                     | 0.460 | 0.010                | 0.018 |
| theta  | 0°                        | 8°    | 0°                   | 8°    |

**SOT-323 Suggested Pad Layout**



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance:  $\pm 0.05$  mm.  
 3. The pad layout is for reference purposes only.