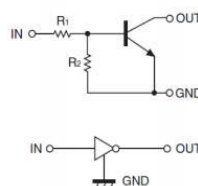


### FEATURES

- 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:25

1. IN 2. GND 3. OUT

### MAXIMUM RATINGS(Ta=25℃ unless otherwise noted)

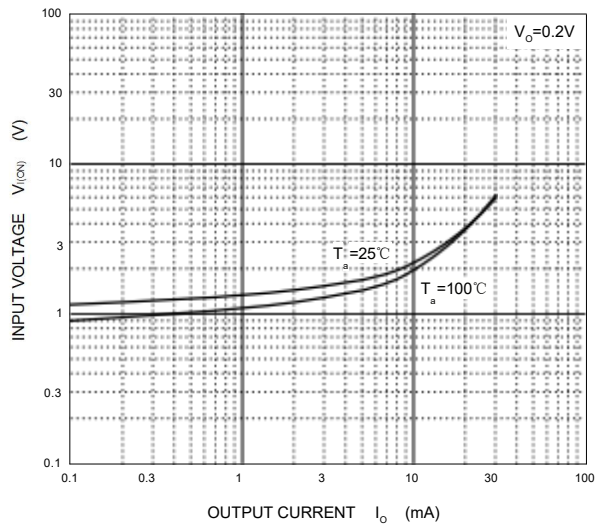
| Symbol         | Parameter                                        | Limits   | Unit |
|----------------|--------------------------------------------------|----------|------|
| $V_{CC}$       | Supply Voltage                                   | 50       | V    |
| $V_{IN}$       | Input Voltage                                    | -10~+40  | V    |
| $I_O$          | Output Current                                   | 30       | mA   |
| $I_{CM}$       | Peak Collector Current                           | 100      | mA   |
| $P_D$          | Power Dissipation                                | 200      | mW   |
| $T_J, T_{stg}$ | Operation Junction and Storage Temperature Range | -55~+150 | ℃    |

### ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

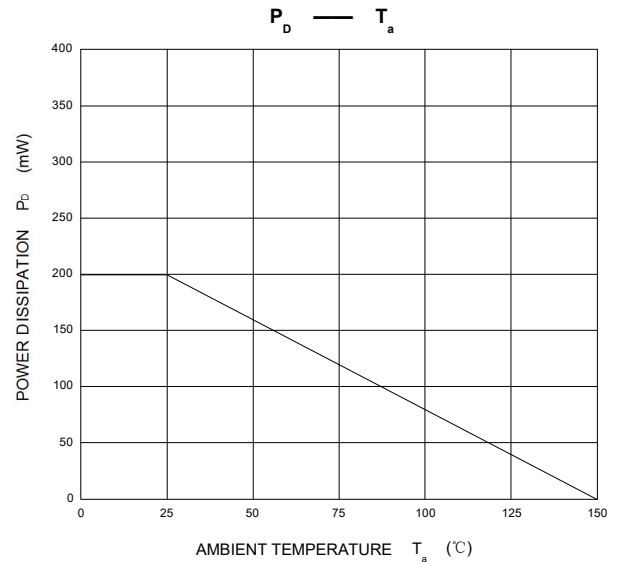
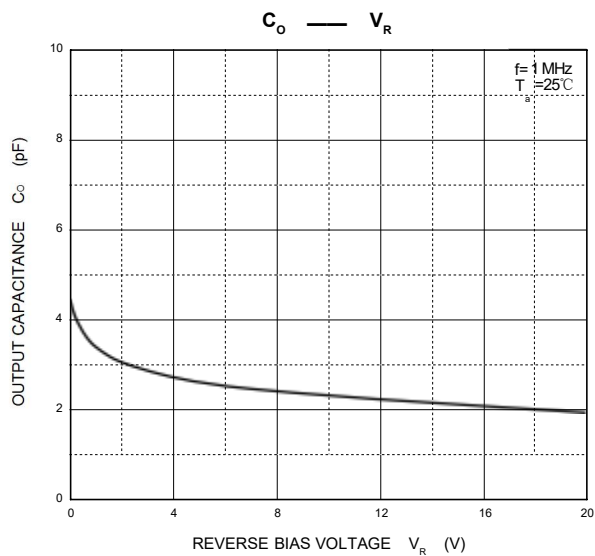
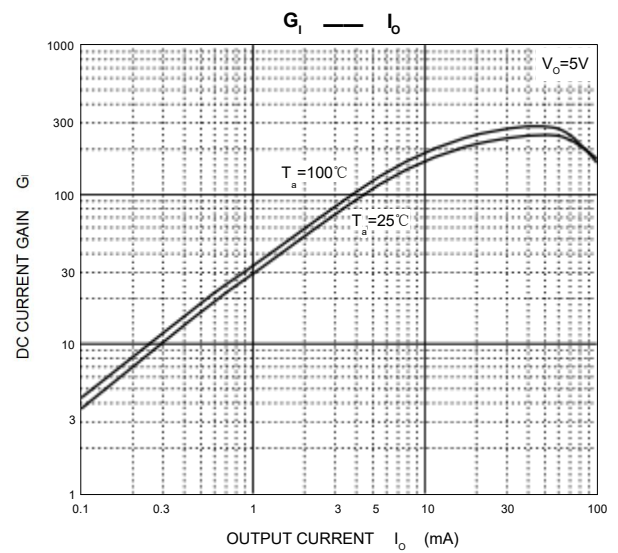
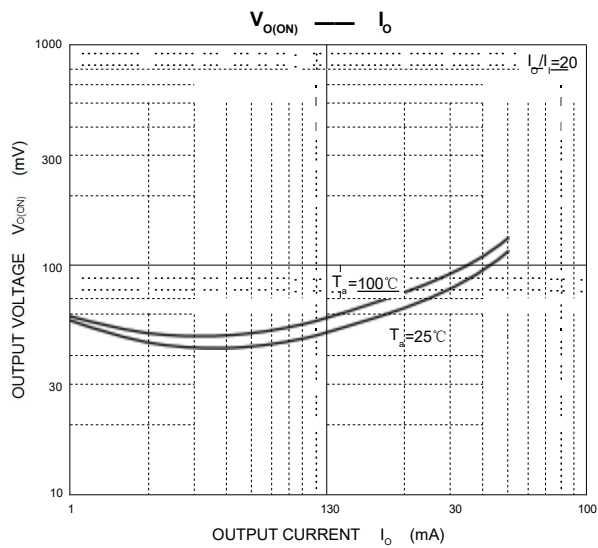
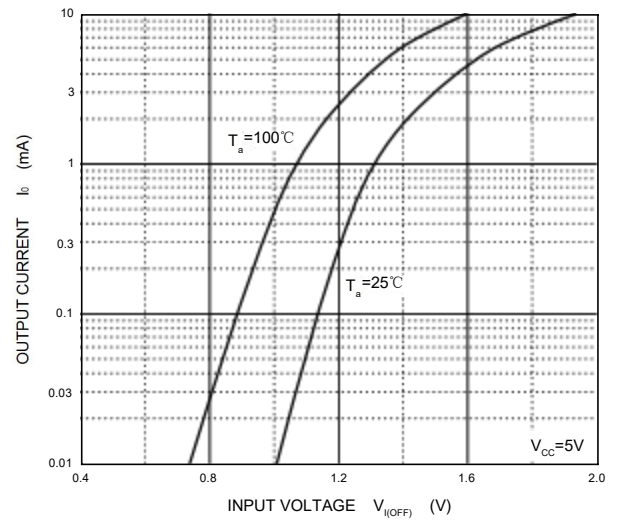
| Parameter            | Symbol       | Conditions                   | Min  | Typ | Max  | Unit       |
|----------------------|--------------|------------------------------|------|-----|------|------------|
| Input voltage        | $V_{I(off)}$ | $V_{CC}=5V, I_O=100\mu A$    | 0.5  |     |      | V          |
|                      | $V_{I(on)}$  | $V_O=0.2V, I_O=5mA$          |      |     | 3    | V          |
| Output voltage       | $V_{O(on)}$  | $I_O/I_I=10mA/0.5mA$         |      | 0.1 | 0.3  | V          |
| Input current        | $I_I$        | $V_I=5V$                     |      |     | 0.36 | mA         |
| Output current       | $I_{O(off)}$ | $V_{CC}=50V, V_I=0$          |      |     | 0.5  | $\mu A$    |
| DC current gain      | $G_I$        | $V_O=5V, I_O=5mA$            | 56   |     |      |            |
| Input resistance     | $R_1$        |                              | 15.4 | 22  | 28.6 | k $\Omega$ |
| Resistance ratio     | $R_2/R_1$    |                              | 0.8  | 1   | 1.2  |            |
| Transition frequency | $f_T$        | $V_O=10V, I_O=5mA, f=100MHz$ |      | 250 |      | MHz        |

## Typical Characteristics

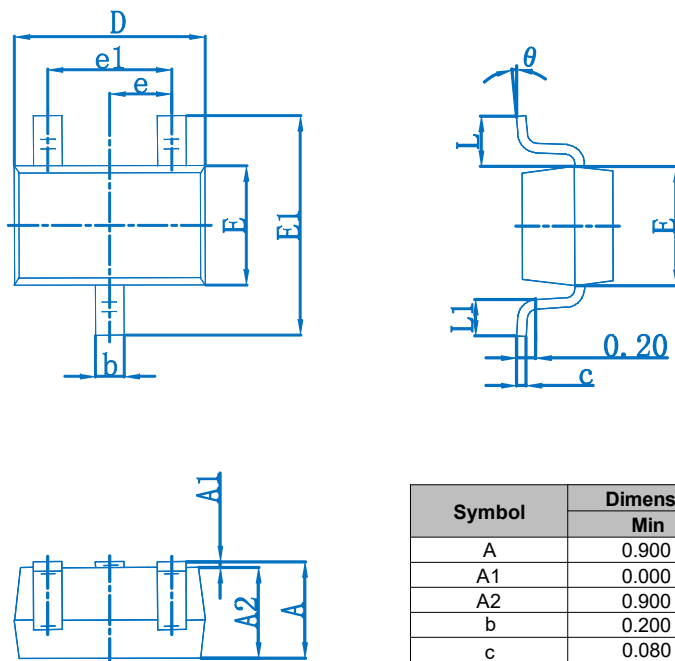
**ON Characteristics**



**OFF Characteristics**

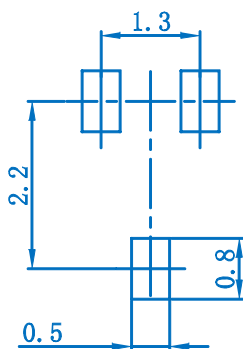


## SOT-323 Package Outline Dimensions



| 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.