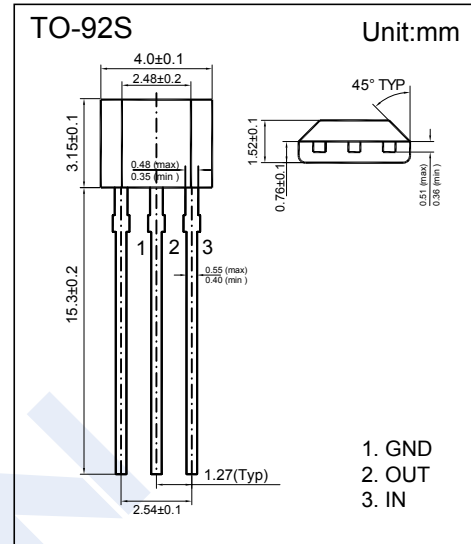
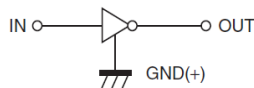
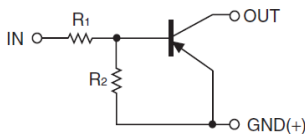


## Digital Transistors

### DTA114ESA (KDTA114ESA)

#### ■ Features

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors(see equivalent circuit)
- The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input.They also have the advantage of almost completely eliminating parasitic effects
- Only the on/off conditions need to be set for operation, making device design easy



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

| Parameter                 | Symbol           | Rating     | Unit |
|---------------------------|------------------|------------|------|
| Supply Voltage            | V <sub>CC</sub>  | -50        | V    |
| Input Voltage             | V <sub>IN</sub>  | -40~+10    |      |
| Output Current            | I <sub>O</sub>   | -50        | mA   |
| Peak Collector Current    | I <sub>CM</sub>  | -100       |      |
| Power Dissipation         | P <sub>D</sub>   | 300        | mW   |
| Junction Temperature      | T <sub>J</sub>   | 150        | °C   |
| Storage Temperature range | T <sub>stg</sub> | -55 to 150 |      |

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

| Parameter            | Symbol                         | Test Conditions                                       | Min  | Typ | Max   | Unit |
|----------------------|--------------------------------|---|------|-----|-------|------|
| Input voltage        | V <sub>I(off)</sub>            | V <sub>CC</sub> = -5 V , I <sub>O</sub> =-100uA       | -0.5 |     |       | V    |
|                      | V <sub>I(on)</sub>             | V <sub>O</sub> = -0.3 V , I <sub>O</sub> =-10 mA      |      |     | -3    |      |
| Output voltage       | V <sub>O(on)</sub>             | I <sub>O</sub> = -10 mA, I <sub>I</sub> =-0.5 mA      |      |     | -0.3  |      |
| Input current        | I <sub>I</sub>                 | V <sub>I</sub> = -5 V                                 |      |     | -0.88 | mA   |
| Output current       | I <sub>O(off)</sub>            | V <sub>CC</sub> = -50V , V <sub>I</sub> =0            |      |     | -0.5  | uA   |
| DC current gain      | G <sub>I</sub>                 | V <sub>O</sub> =-5V,I <sub>O</sub> =-5mA              | 30   |     |       |      |
| Input resistance     | R <sub>1</sub>                 |   | 7    | 10  | 13    | KΩ   |
| Resistance ratio     | R <sub>2</sub> /R <sub>1</sub> |   | 0.8  | 1   | 1.2   |      |
| Transition frequency | f <sub>T</sub>                 | V <sub>O</sub> = -10V, I <sub>O</sub> = -5mA,f=100MHz |      | 250 |       | MHz  |

# Digital Transistors

## DTA114ESA (KDTA114ESA)

■ Typical Characteristics

