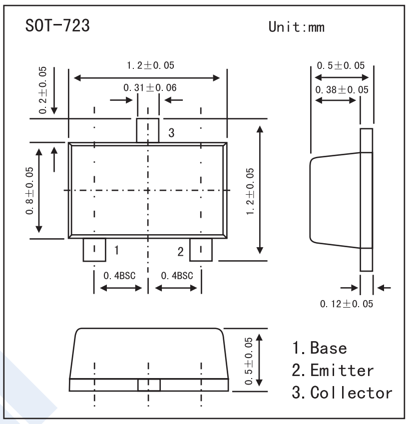
# Digital Transistors

# DTA114TM



## ■ Features

- ● PNP Epitaxial Planar Silicon Transistor (Resistor Built-In Typ.)
- ● Built-In Bias Resistors Enable The Configuration of An Inverter Circuit Without Connecting External Input Resistors (See Equivalent Circuit).

## ■ Absolute Maximum Ratings Ta = 25℃

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | -50 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | -50 | V |
| Emitter-Base Voltage | $V_{EBO}$ | -5 | V |
| Collector Current | $I_C$ | -100 | mA |
| Collector Power Dissipation | $P_C$ | 150 | mW |
| Junction temperature | $T_j$ | 150 | ℃ |
| Storage temperature | $T_{stg}$ | -55 to +150 | ℃ |

## ■ Electrical Characteristics Ta = 25℃

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-Base Breakdown Voltage | $BV_{CBO}$ | $I_C$ = -50 μA | -50 | | | V |
| Collector-Emitter Breakdown Voltage | $BV_{CEO}$ | $I_C$ = -1mA | -50 | | | V |
| Emitter-Base Breakdown Voltage | $BV_{EBO}$ | $I_E$ = -50 μA | -5 | | | V |
| Collector Cut-off Current | $I_{CBO}$ | $V_{CB}$ = -50V | | | -0.5 | μA |
| Emitter Cut-off Current | $I_{EBO}$ | $V_{EB}$ = -4V | | | -0.5 | μA |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$ = -10mA , $I_B$ = -1mA | | | -0.3 | V |
| DC Current Transfer Ratio | $h_{FE}$ | $V_{CE}$ = -5V , $I_C$ = -1mA | 100 | 250 | 600 | |
| Input Resistance | $R_1$ | | 7 | 10 | 13 | kΩ |
| Transistion Frequency | $f_T$ * | $V_{CE}$ = -10V , $I_E$ = 5mA , f = 100MHz | | 250 | | MHz |

* Characteristics of built-in transistor

## ■ Marking

| Marking | 94 |
|---|---|

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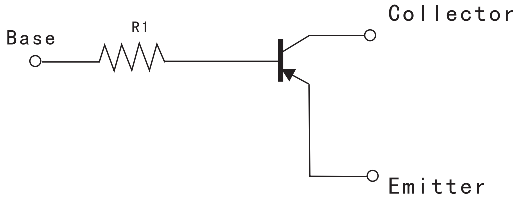
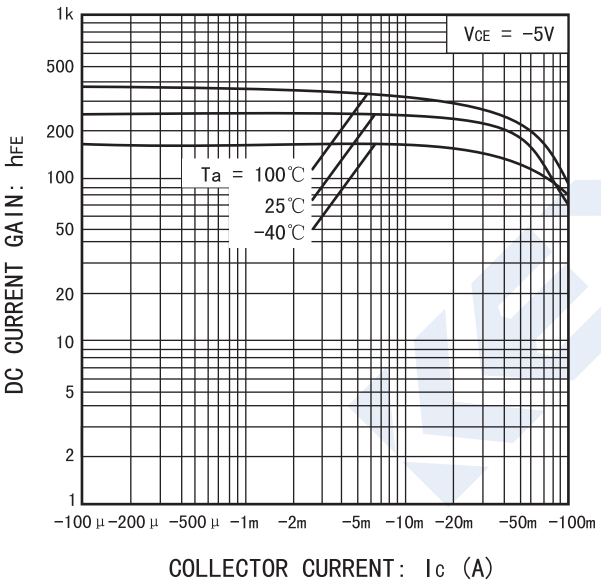
## ■ Equivalent Circuit

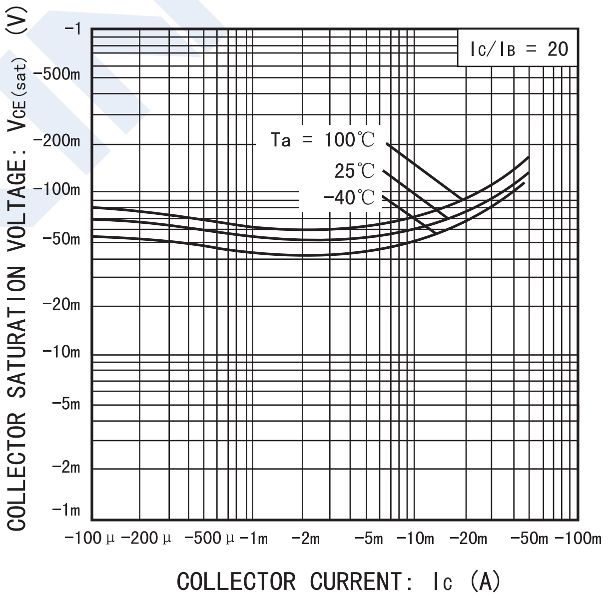


R1 = 10kΩ

## ■ Electrical Characteristics Curves



DC current gain vs. collector current



Collector-emitter saturation voltage vs. collector current