Elektronische Bauelemente

# DTA114TE / DTA114TUA / DTA114TCA / DTA114TSA

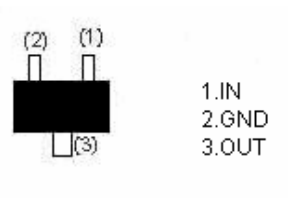
**PNP Digital Transistors (Built-in Resistors)**

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

## FEATURES

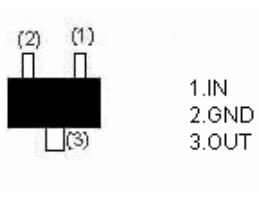
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.
- The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input. They also have the advantage of almost completely eliminating parasitic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

**DTA114TE (SOT-523)**



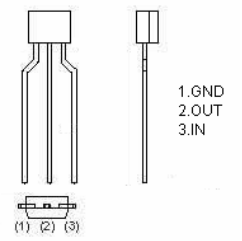

Addreviated symbol：94

**DTA114TUA (SOT-323)**

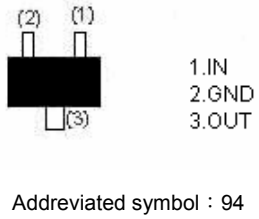



Addreviated symbol：94

**DTA114TSA (TO-92S)**

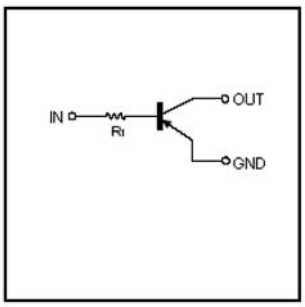



**DTA114TCA (SOT-23)**




Addreviated symbol：94

## EQUIVALENT CIRCUIT




## ABSOLUTE MAXIMUM RATINGS at ($T_A$ = 25°C unless otherwise noted)

| Parameter | Symbol | LIMITS(DTA114T□) | | | | Unit |
|---|---|---|---|---|---|---|
| | | E | UA | CA | SA | |
| Collector-Base Voltage | $V_{CBO}$ | -50 | | | | V |
| Collector-Emitter Voltage | $V_{CEO}$ | -50 | | | | V |
| Emitter-Base Voltage | $V_{EBO}$ | -5 | | | | mA |
| Collector Current-Continuous | $I_C$ | -100 | | | | |
| Collector Dissipation | $P_C$ | 150 | 200 | | 300 | mW |
| Junction & Storage temperature | $T_J$, $T_{STG}$ | 150, -55~150 | | | | ℃ |

## ELECTRICAL CHARACTERISTICS at ($T_A$ = 25°C unless otherwise noted)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|---|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V_{(BR)CBO}$ | -50 | - | - | V | $I_C$= -50μA, $I_E$= 0 |
| **Collector-emitter breakdown voltage** | $V_{(BR)CEO}$ | -50 | - | - | | $I_C$= -1mA, $I_B$= 0 |
| **Emitter-base breakdown voltage** | $V_{(BR)EBO}$ | -5 | - | - | V | $I_E$= -50μA, $I_C$=0 |
| **Collector cut-off current** | $I_{CBO}$ | - | - | -0.5 | μA | $V_{CB}$= -50V, $I_E$=0 |
| **Emitter cut-off current** | $I_{EBO}$ | - | - | -0.5 | μA | $V_{EB}$= -4V, $I_C$=0 |
| **DC current gain** | $h_{FE}$ | 100 | 250 | 600 | | $V_{CE}$= -5V, $I_C$= -1mA |
| **Collector-emitter saturation voltage** | $V_{CE(sat)}$ | - | - | -0.3 | V | $I_C$= -10mA, $I_B$= -1mA |
| **Transition frequency** | $f_T$ | - | 250 | - | MHz | $V_{CE}$= -10V, $I_C$= -5mA, f= 100MHz |
| **Input resistor** | R1 | 7 | 10 | 13 | kΩ | |

## CHARACTERISTIC CURVES

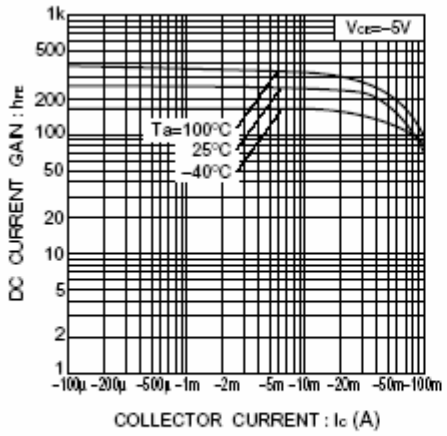



Fig.1 DC current gain vs. collector current

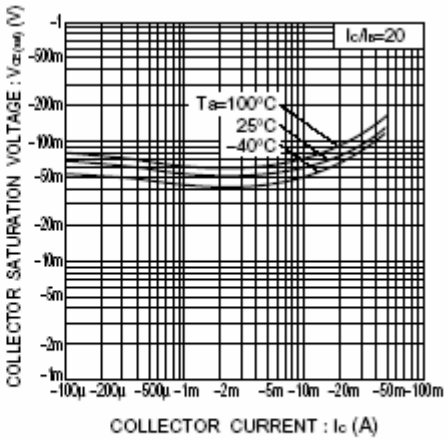



Fig.2 Collector-emitter saturation voltage vs. collector current