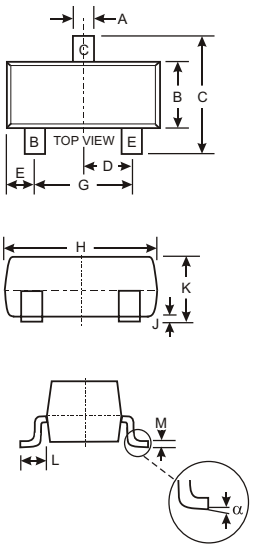
HAICHUANG SEMI

# DTA123JCA

## PNP SILICON EPITAXIAL PLANAR DIGITAL TRANSISTOR

## Features

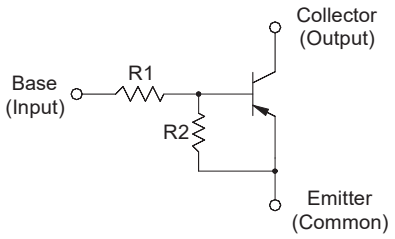
- With built-in bias resistors.
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.
- Marking Code:E32




| SOT-23 | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 0.37 | 0.51 |
| **B** | 1.20 | 1.40 |
| **C** | 2.30 | 2.50 |
| **D** | 0.89 | 1.03 |
| **E** | 0.45 | 0.60 |
| **G** | 1.78 | 2.05 |
| **H** | 2.80 | 3.00 |
| **J** | 0.013 | 0.10 |
| **K** | 0.903 | 1.10 |
| **L** | 0.45 | 0.61 |
| **M** | 0.085 | 0.180 |
| α | 0° | 8° |
| **All Dimensions in mm** | | |

## Maximum Ratings @ $T_A$ = 25°C unless otherwise specified

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Supply Voltage | $V_{CC}$ | -50 | V |
| Input Voltage | $V_{IN}$ | -12～+5 | V |
| Output Current | $I_O$ | -100 | mA |
| Power Dissipation | $P_D$ | 200 | mW |
| Junction Temperature | $T_j$ | 150 | °C |
| Storage Temperature | $T_{stg}$ | - 55 to + 150 | °C |

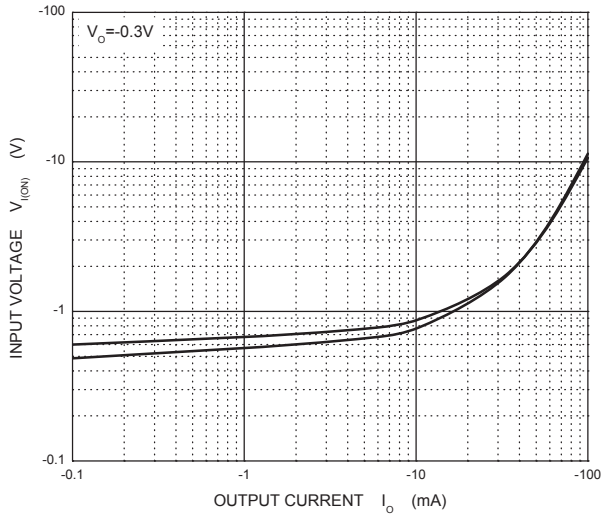



## Electrical Characteristics @ $T_A$ = 25°C unless otherwise specified

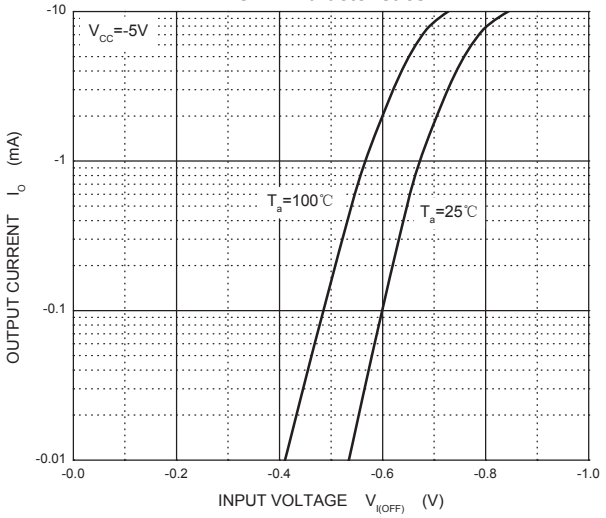
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Input voltage** | $V_{I(off)}$ | $V_{CC}$=-5V,$I_O$=-100μA | -0.5 | | | V |
| | $V_{I(on)}$ | Vo=-0.3V,Io=-5mA | | | -1.1 | V |
| **Output voltage** | $V_{O(on)}$ | Io/Ii=-5mA/-0.25mA | | | -0.3 | V |
| **Input current** | $I_I$ | $V_I$=-5V | | | -3.6 | mA |
| **Output current** | $I_{O(off)}$ | $V_{CC}$=-50V,$V_I$=0 | | | -0.5 | μA |
| **DC current gain** | $G_I$ | Vo=-5V,Io=-10mA | 80 | | | |
| **Input resistance** | $R_1$ | | 1.54 | 2.2 | 2.86 | kΩ |
| **Resistance ratio** | $R_2/R_1$ | | 17 | 21 | 26 | |
| **Transition frequency** | $f_T$ | $V_O$=-10V,$I_O$=-5mA,f=100MHz | | 250 | | MHz |

## TYPICAL TRANSIENT CHARACTERISTICS

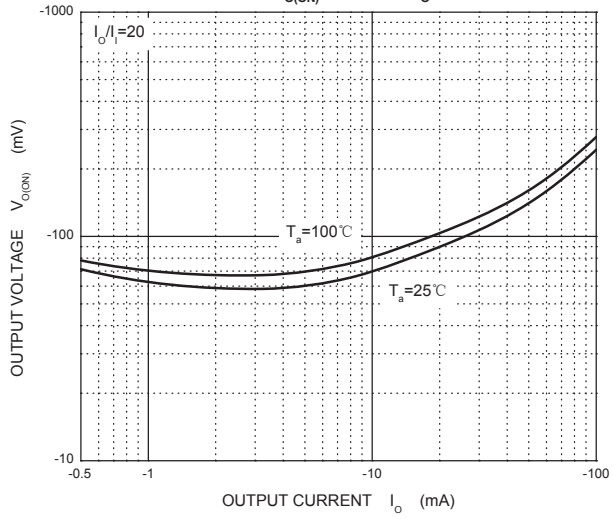
ON Characteristics



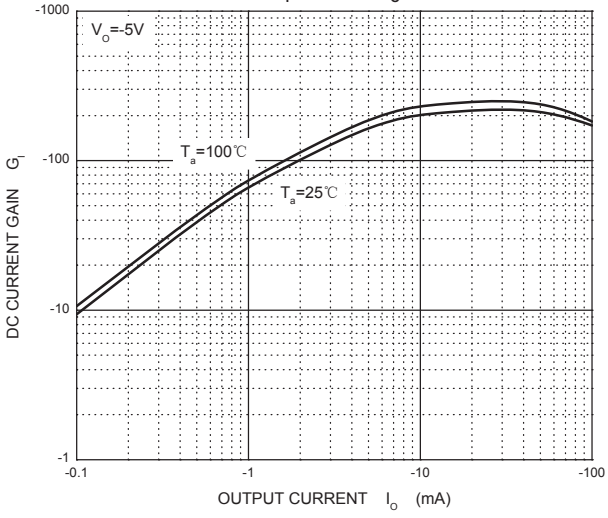

OFF Characteristics



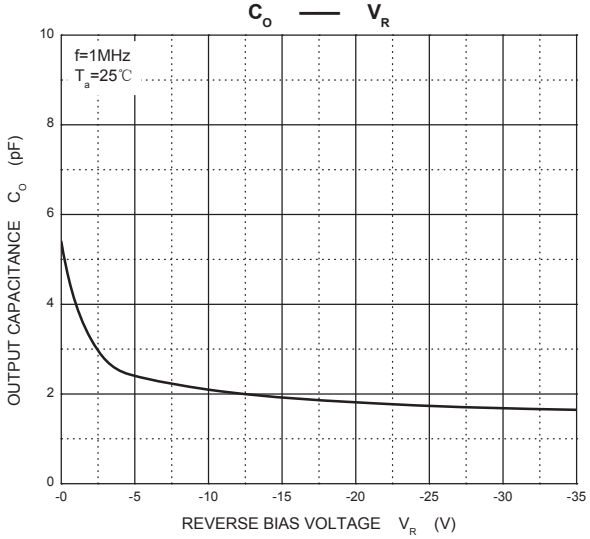

$V_{O(ON)}$ —— $I_O$



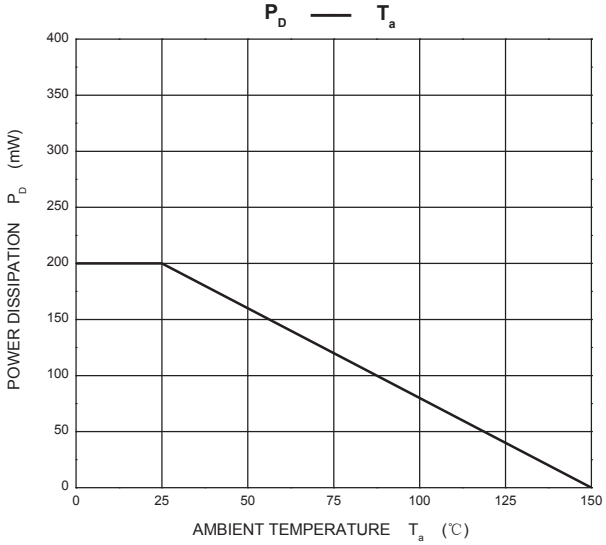

$G_I$ —— $I_O$




$C_O$ —— $V_R$




$P_D$ —— $T_a$



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