## / Descriptions

SOT-23 NPN Silicon NPN Digital transistor in a SOT-23 Plastic Package.

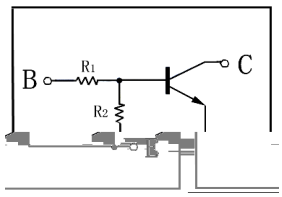
## / Features

With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process,HF Product.

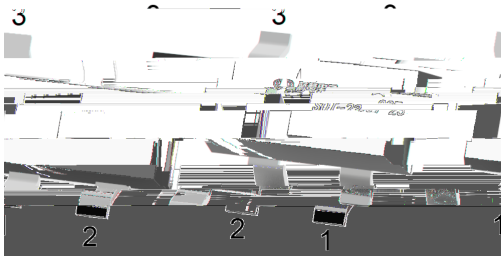
## / Applications

Switching, inverter circuit, interface circuit and driver circuit applications.

## / Equivalent Circuit




## / Pinning




PIN 1 Base PIN 2 Emitter PIN 3 Collector

## / $h_{FE}$ Classifications & Marking

| | |
|---|---|
| Marking | H43 |

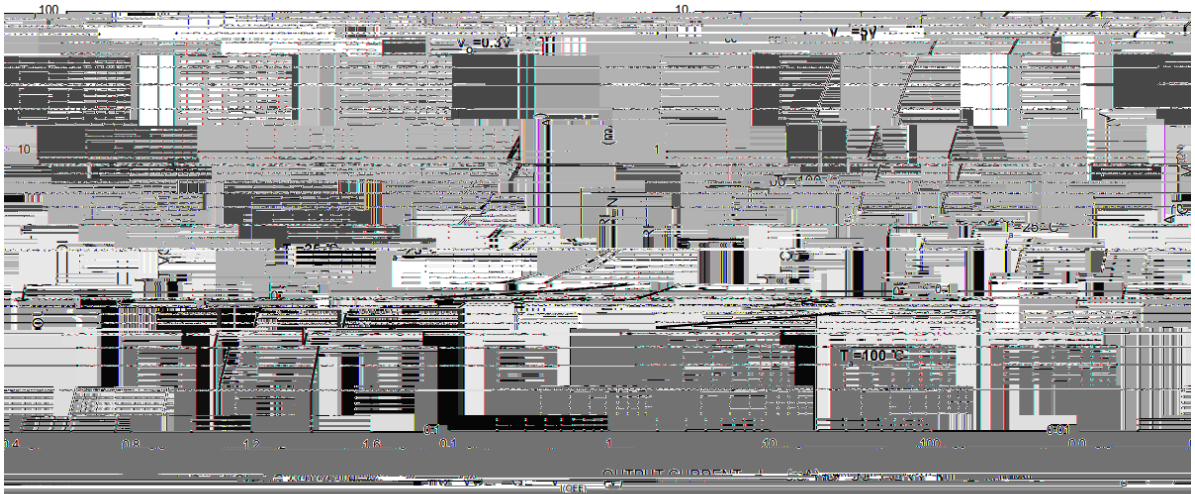
## / Absolute Maximum Ratings(Ta=25 )

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Output Voltage | $V_{CC}$ | 50 | V |
| Input Voltage | $V_{In}$ | 20 | V |
| | | -7.0 | V |
| Output Current | $I_O$ | 100 | mA |
| Power Dissipation | $P_C$ | 200 | mW |
| Junction Temperature | $T_j$ | 150 | |
| Storage Temperature Range | $T_{stg}$ | -55 150 | |

## / Electrical Characteristics(Ta=25 )

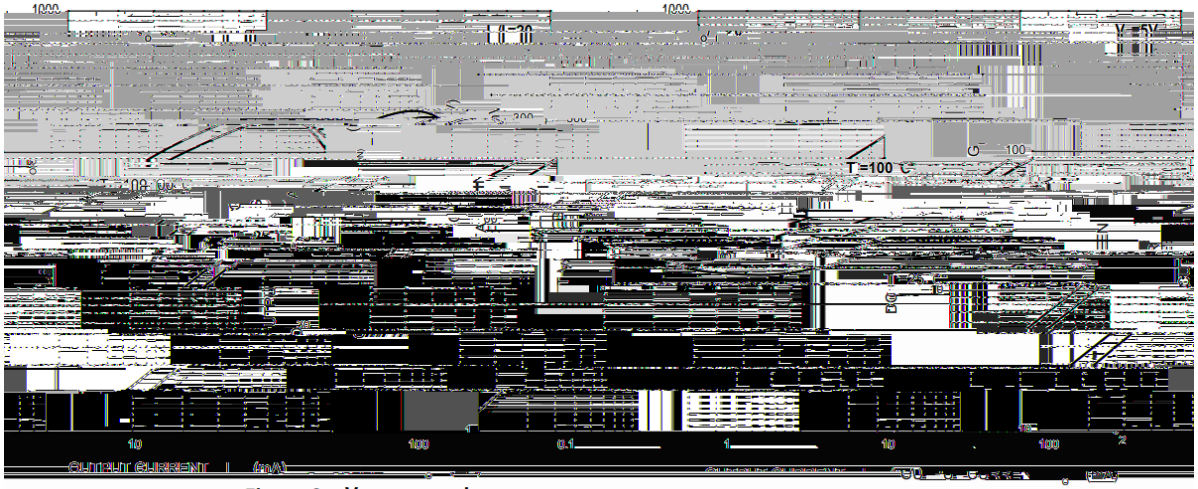
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Input Voltage | $V_{I(off)}$ | $V_{CC}$=5.0V $I_O$=100μA | 0.3 | | | V |
| | $V_{I(on)}$ | $V_O$=0.3V $I_O$=20mA | | | 2.5 | V |
| Output Voltage | $V_{O(on)}$ | $I_O$=10mA $I_I$=0.5mA | | 0.1 | 0.3 | V |
| Input Current | $I_I$ | $V_I$=5.0V | | | 1.8 | mA |
| Output Cut-off Current | $I_{O(off)}$ | $V_{CC}$=50V $V_I$=0V | | | 0.5 | μA |
| DC Current Gain | $G_I$ | $V_O$=5.0V $I_O$=10mA | 30 | | | |
| Transition Frequency | $f_T$ | $V_{CE}$=10V $I_C$=5.0mA f=100MHz | | 250 | | MHz |
| Resistance1 | $R_1$ | | 3.29 | 4.7 | 6.11 | KΩ |
| Resistance Ratio | $R_2/R_1$ | | 1.7 | 2.1 | 2.6 | |

## / Electrical Characteristic Curve



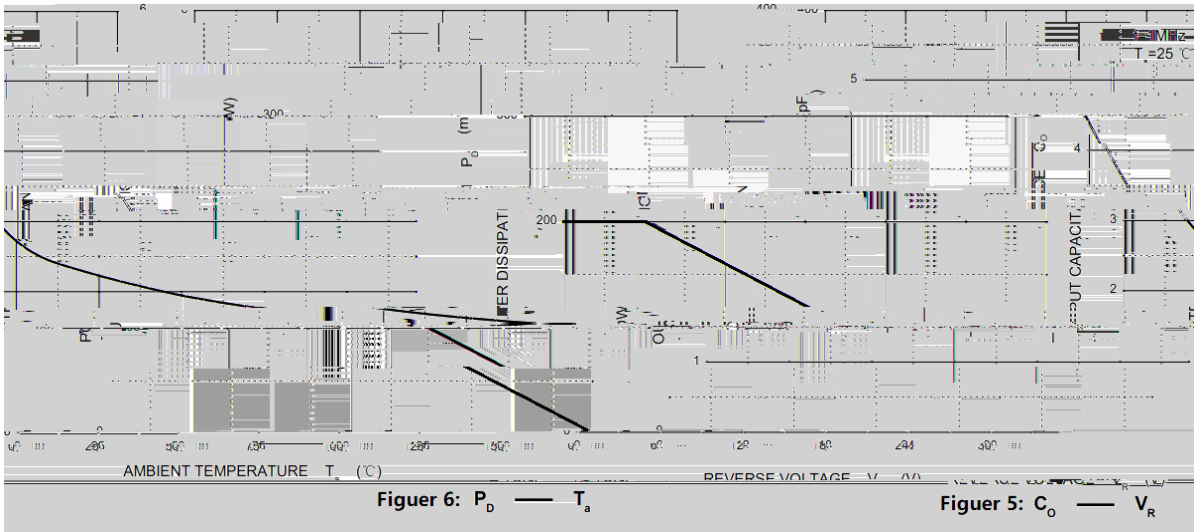
Figuer 2: OFF Characteristics

Figuer 1: ON Characteristics



Figuer 3: $V_{O(ON)}$ —— $I_O$

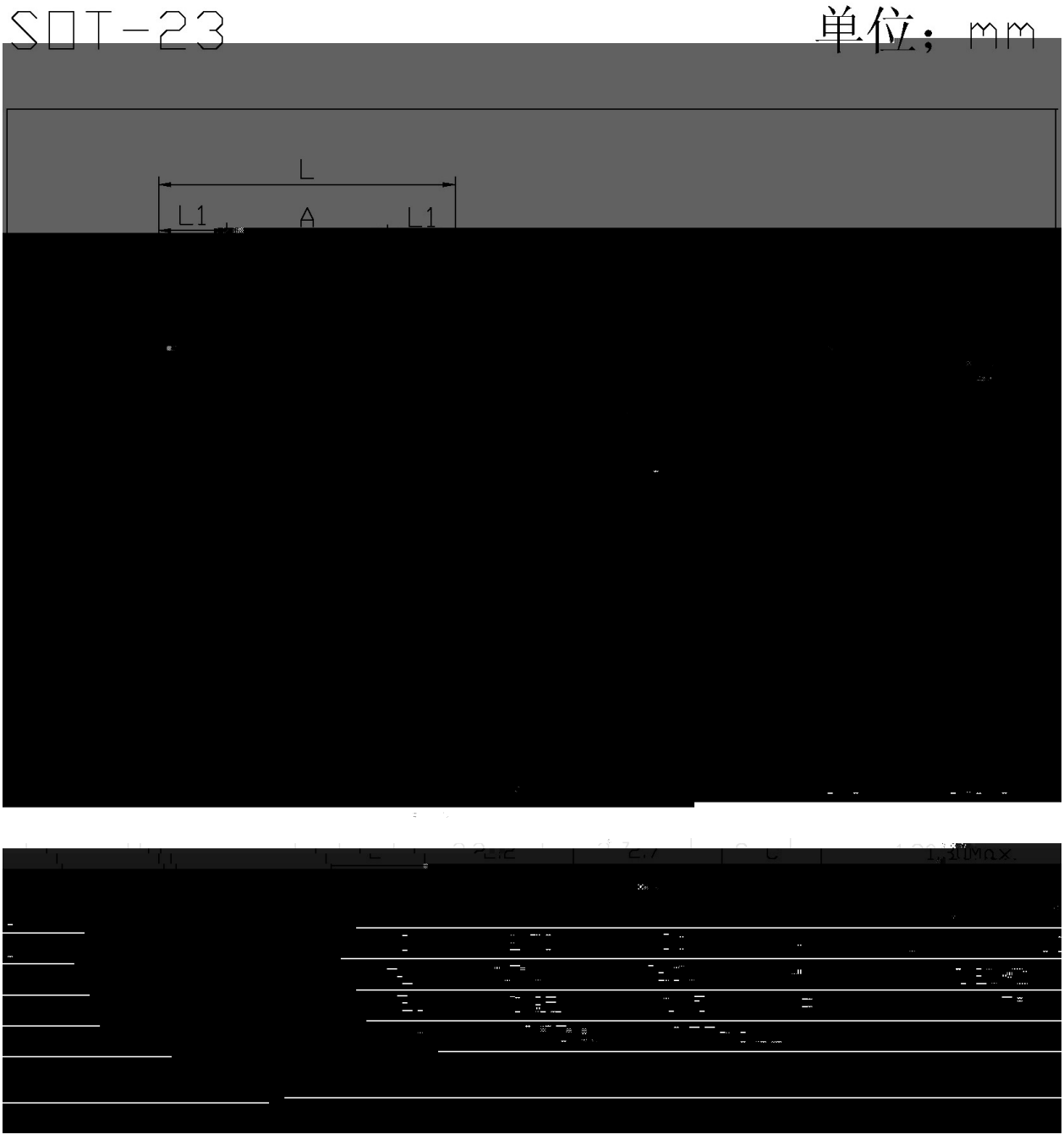
Figuer 4: $G_I$ —— $I_O$



Figuer 6: $P_D$ —— $T_a$

Figuer 5: $C_O$ —— $V_R$

## / Package Dimensions



## , M y ƒ / Marking Instructions

# H43

ª ¢ y

. y ¸ [ W A

43 y º Z W A

Note:

. y Company Code

43 y Product Type Code