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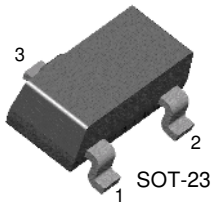
# KST5086/5087

## Low Noise Transistor



SOT-23

1. Base 2. Emitter 3. Collector

## PNP Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a$=25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -50 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -50 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -3 | V |
| $I_C$ | Collector Current | -50 | mA |
| $P_C$ | Collector Power Dissipation | 350 | mW |
| $T_{STG}$ | Storage Temperature | 150 | °C |

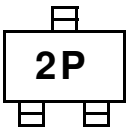
### Electrical Characteristics $T_a$=25°C unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|---|---|---|---|---|---|
| $BV_{CBO}$ | Collector-Base Breakdown Voltage | $I_C$= -100μA, $I_E$=0 | -50 | | V |
| $BV_{CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= -1mA, $I_B$=0 | -50 | | V |
| $I_{CBO}$ | Collector Cut-off Current | $V_{CB}$= -20V, $I_E$=0 | | -50 | nA |
| $h_{FE}$ | DC Current Gain | | | | |
| | : KST5086 | $V_{CE}$= -5V, $I_C$= -100μA | 150 | 500 | |
| | :KST5087 | | 250 | 800 | |
| | : KST5086 | $V_{CE}$= -5V, $I_C$= -1mA | 150 | | |
| | : KST5087 | | 250 | | |
| | : KST5086 | $V_{CE}$= -5V, $I_C$= -10mA | 150 | | |
| | : KST5087 | | 250 | | |
| $V_{CE}$(sat) | Collector-Emitter Saturation Voltage | $I_C$= -10mA, $I_B$= -1mA | | -0.3 | V |
| $V_{BE}$(sat) | Base-Emitter Saturation Voltage | $I_C$= -10mA, $I_B$= -1mA | | -0.85 | V |
| $f_T$ | Current Gain Bandwidth Product | $V_{CE}$= -5V, $I_C$= -500μA<br>f=20MHz | 40 | | MHz |
| $C_{ob}$ | Output Capacitance | $V_{CB}$= -5V, $I_E$=0<br>f=100MHz | | 4 | pF |
| NF | Noise Figure | | | | |
| | : KST5086 | $I_C$= -100μA, $V_{CE}$= -5V | | 3 | dB |
| | : KST5087 | $R_S$=3KΩ, f=1KHz | | 2 | dB |
| | : KST5087 | $V_{CE}$= -5V, $I_C$= -20mA<br>$R_S$=10KΩ, f=10Hz to 15.7KHz | | 2 | dB |

## Marking Code

| Type | KST5086 | KST5087 |
|---|---|---|
| Mark | 2P | 2Q |

Marking

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# Typical Characteristics

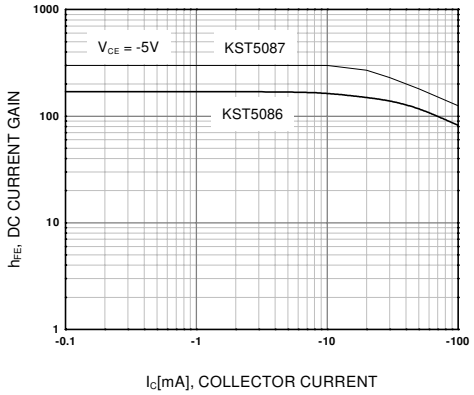


**Figure 1. DC current Gain**

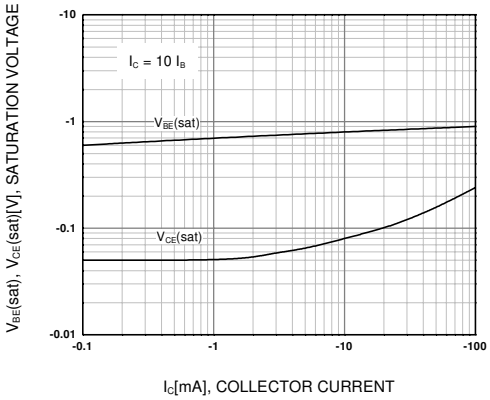


**Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage**

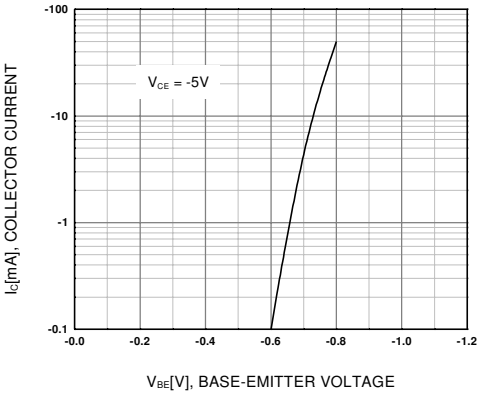


**Figure 3. Base-Emitter On Voltage**

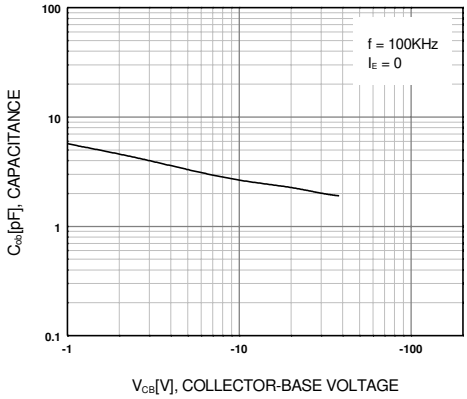


**Figure 4. Output Capacitance**

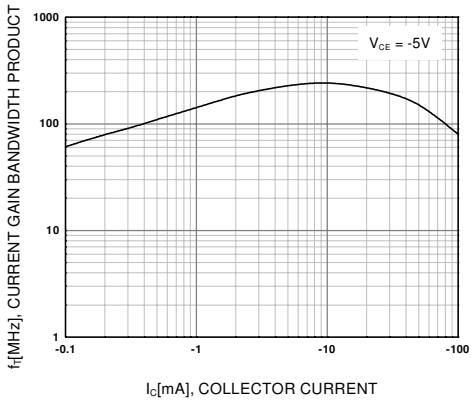


**Figure 5. Current Gain Bandwidth Product**

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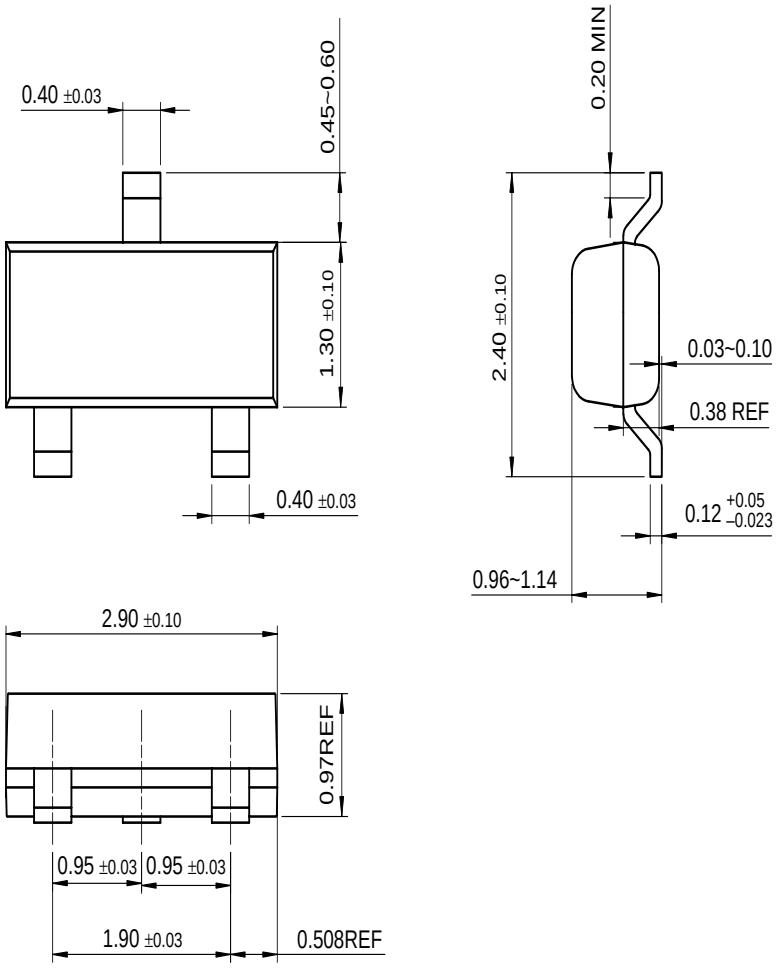
## Package Dimensions

SOT-23




Dimensions in Millimeters

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