BORN SEMICONDUCTOR

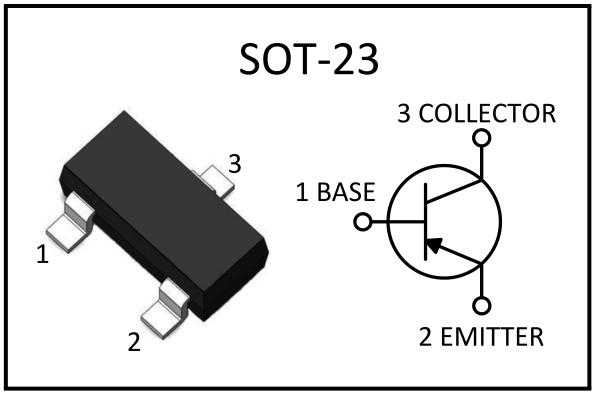
# M8550

**PNP Plastic-Encapsulate Transistor**

## Features

- $V_{CE}$=-25V
- $I_C$=-0.8A
- $f_T$=150MHZ @$V_{CE}$=-6V, $I_C$=-20mA,f=30MHZ

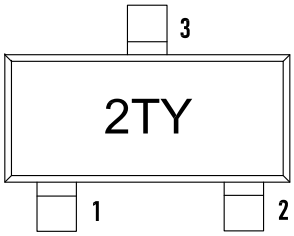
## Package




## General Description

- Complementary NPN Type available M8050
- Epitaxial planar die constructio
- SOT-23 Plastic Package

## Marking




## Ordering information

| Order code | Package | Rank | $H_{FE}$ | Base qty | Delivery mode |
|---|---|---|---|---|---|
| M8550 | SOT-23 | L | 85~300 | 3K | Tape and reel |
| M8550 | SOT-23 | H | 300~400 | 3K | Tape and reel |

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

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -40 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -25 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -6 | V |
| $I_C$ | Collector Current | -0.8 | A |
| $P_C$ | Collector Power Dissipation | 200 | mW |
| $T_J$ | Junction Temperature Range | -55 to +150 | °C |
| $T_{stg}$ | Storage Temperature Range | -55 to +150 | °C |

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# M8550

**PNP Plastic-Encapsulate Transistor**

**Electrical Characteristics ($T_A$=25°C, unless otherwise specified)**

| Symbol | Parameter | Test condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| $V_{(BR)CBO}$ | Collector-base breakdown voltage | $I_C$=-100μA, $I_E$=0 | -40 | – | – | V |
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage | $I_C$=-1mA,$I_B$=0 | -25 | – | – | |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage | $I_E$=-100μA,$I_C$=0 | -6 | – | – | |
| $I_{CBO}$ | Collector cut-off current | $V_{CB}$=-35V,$I_E$=0 | – | – | -100 | nA |
| $I_{CEO}$ | Collector cut-off current | $V_{CE}$=-20V,$I_B$=0 | – | – | -100 | |
| $h_{FE(1)}$ | DC current gain | $V_{CE}$=-1V,$I_C$=-5mA | 45 | – | – | – |
| $h_{FE(2)}$ | | $V_{CE}$=-1V,$I_C$=-100mA | 85 | – | 400 | |
| $h_{FE(3)}$ | | $V_{CE}$=-1V,$I_C$=-800mA | 40 | – | – | |
| $V_{CE(sat)}$ | Collector-emitter saturation voltage | $I_C$=-800mA,$I_B$=-80mA | – | – | -0.50 | V |
| $V_{BE(sat)}$ | Base-emitter saturation voltage | | – | – | -1.20 | |
| $f_T$ | Transition frequency | $V_{CE}$=-6V,$I_C$=-20mA,f=30MHz | 150 | – | – | MHz |

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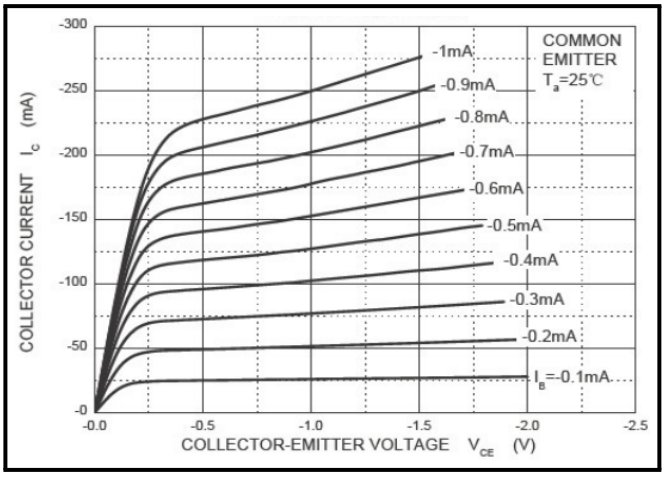
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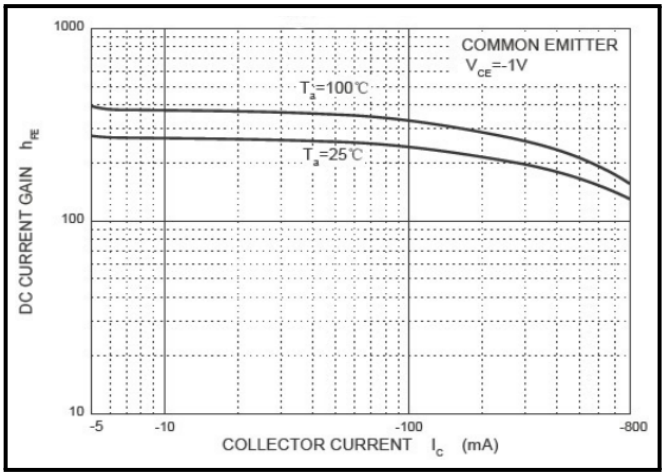
PNP Plastic-Encapsulate Transistor

## Typical Performance Characteristics($T_J$ = 25 °C, unless otherwise noted)

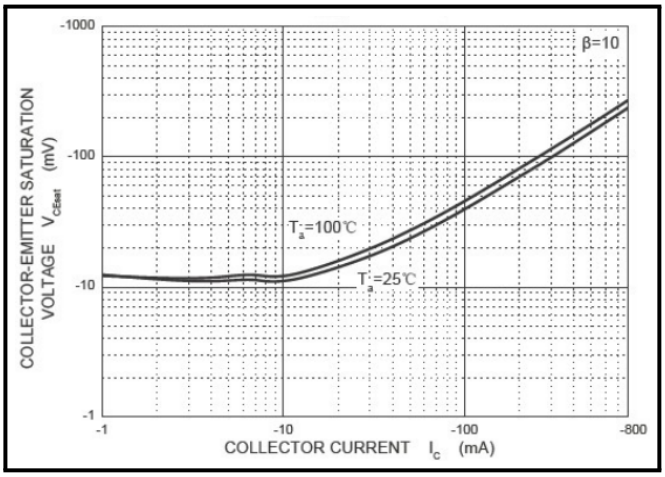
### Figure 1 :Static Characteristics



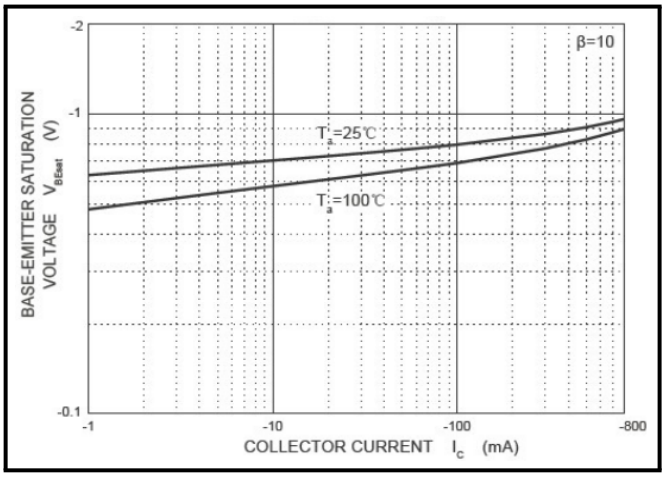

### Figure 2 :$h_{FE}$—— $I_C$



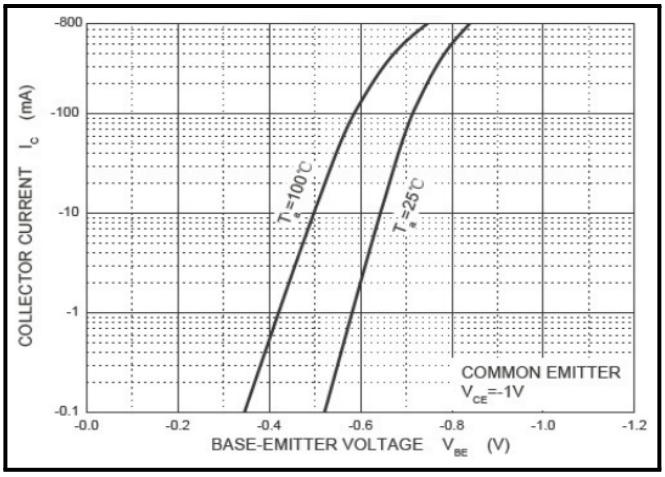

### Figure 3 : $V_{CE(sat)}$—— $I_C$



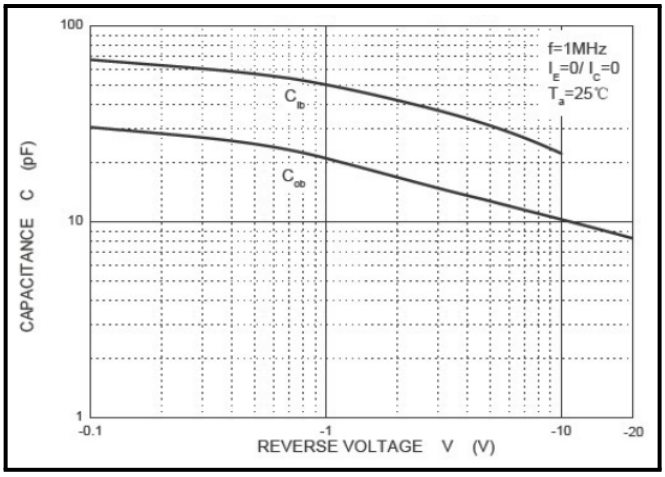

### Figure 4 : $V_{BE(sat)}$—— $I_C$




### Figure 5 :$I_C$—— $V_{BE}$




### Figure 6 :$C_{ob}$/$C_{ib}$—— $V_{CB}$/$V_{EB}$




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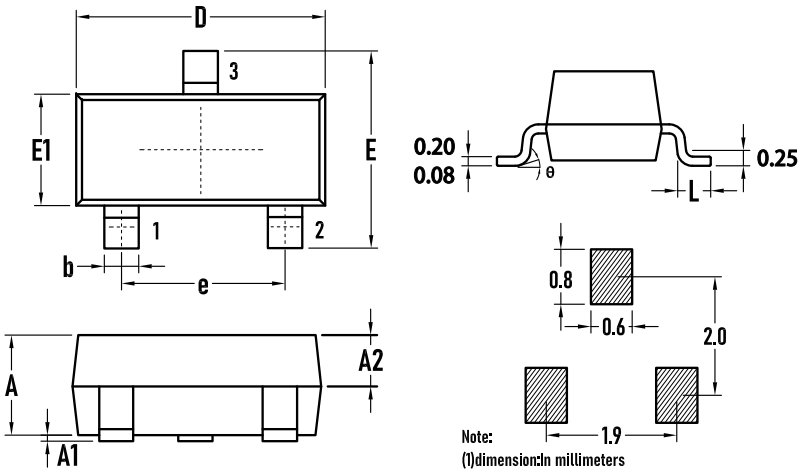
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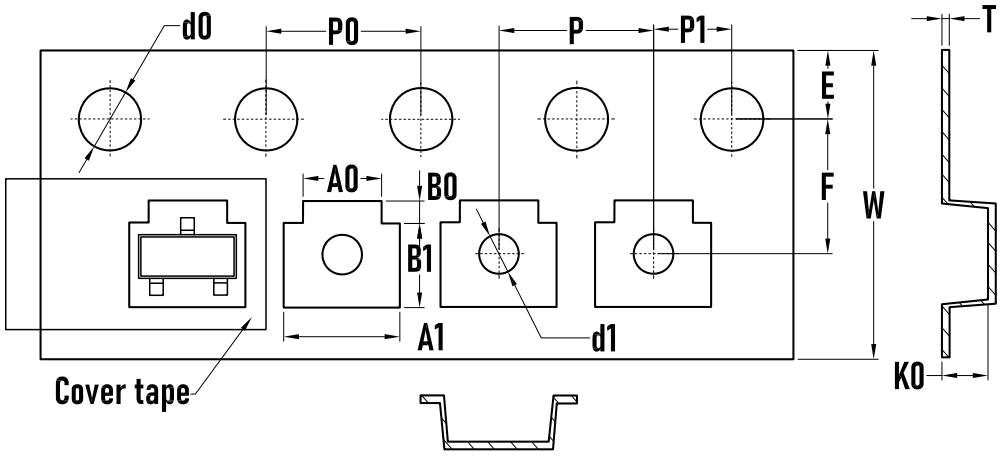
**PNP Plastic-Encapsulate Transistor**

## Outline Drawing - SOT-23



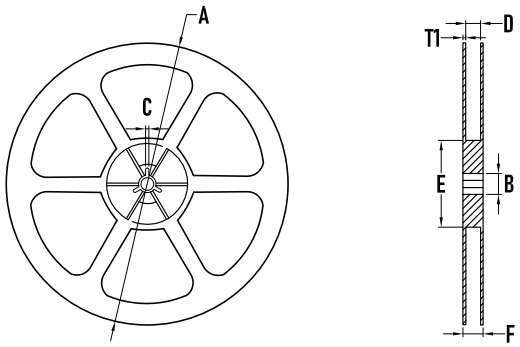

| SYMBOL | MILLIMETER | | |
|---|---|---|---|
| | MIN. | Typ. | MAX. |
| A | 0.90 | 1.00 | 1.10 |
| A1 | 0.01 | – | 0.10 |
| A2 | 0.50 | 0.60 | 0.70 |
| D | 2.80 | 2.90 | 3.00 |
| b | 0.25 | 0.35 | 0.45 |
| E | 2.10 | 2.30 | 2.50 |
| E1 | 1.20 | 1.30 | 1.40 |
| e | 1.80 | 1.90 | 2.00 |
| L | 0.25 | 0.35 | 0.45 |
| θ | 0 | – | 8° |

## Packaging Tape - SOT-23




| SYMBOL | MILLIMETER |
|---|---|
| A0 | 2.10±0.10 |
| A1 | 3.10±0.10 |
| B0 | 0.65±0.10 |
| B1 | 2.75±0.10 |
| d0 | 1.55±0.10 |
| d1 | 1.00±0.05 |
| E | 1.75±0.10 |
| F | 3.50±0.10 |
| K0 | 1.10±0.10 |
| P | 4.00±0.10 |
| P0 | 4.00±0.10 |
| P1 | 2.00±0.10 |
| W | 8.00±0.30 |
| T | 0.20 ±0.05 |

## Packaging Reel




| SYMBOL | MILLIMETER |
|---|---|
| A | 177.8±0.2 |
| B | 3.1 |
| C | 13.50 |
| D | 9.6±0.3 |
| E | 75±0.2 |
| F | 12.3±0.3 |
| T1 | 1.0±0.2 |
| Quantity | 3000PCS |

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