



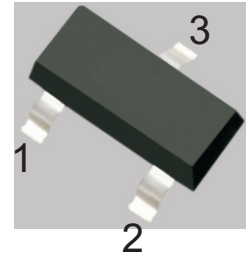
S8050

NPN TRANSISTOR

FEATURES

- Complimentary to S8550
- Collector Current: $I_C=0.5A$

SOT-23



1.BASE
2.EMITTER
3.COLLECTOR

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|--|----------------|----------|------|
| Collector-Base Voltage | V_{CB0} | 40 | V |
| Collector-Emitter Voltage | V_{CEO} | 25 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Collector Current — Continuous | I_C | 500 | mA |
| Collector Power Dissipation | P_C | 300 | mW |
| Thermal Resistance From Junction To Ambient | R_{thJA} | 417 | °C/W |
| Operation Junction and Storage Temperature Range | T_J, T_{stg} | -55~+150 | °C |

CLASSIFICATION OF h_{FE1}

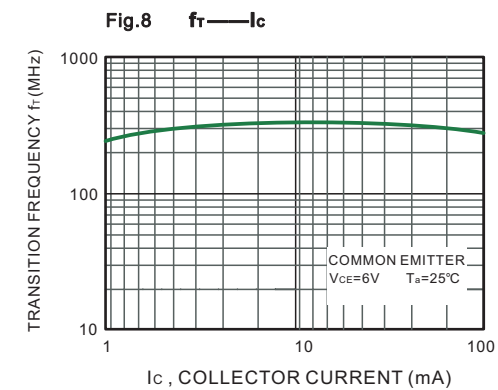
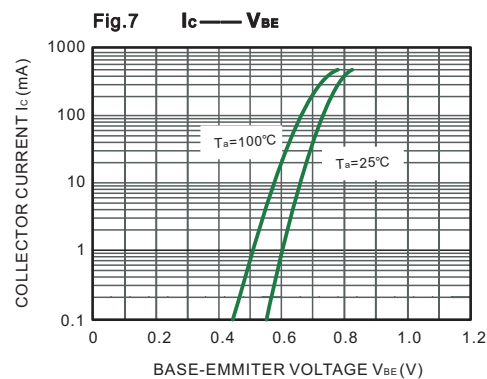
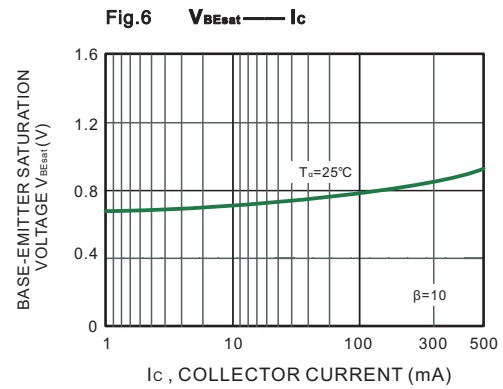
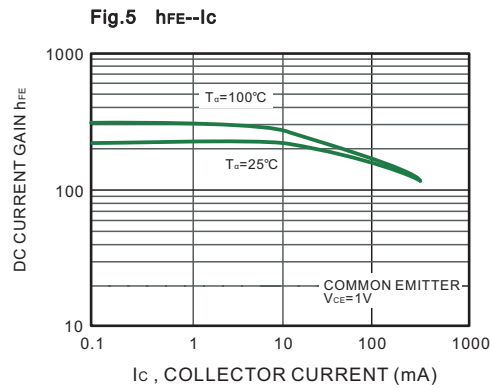
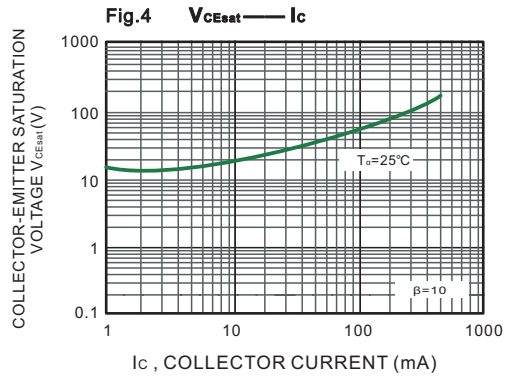
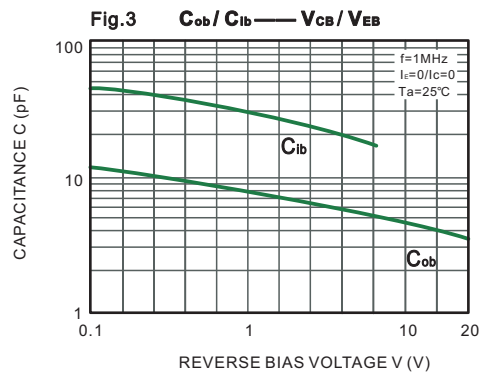
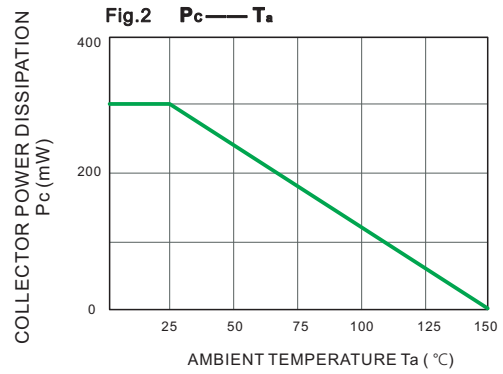
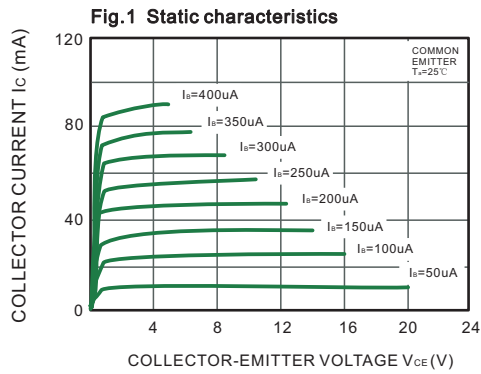
| Rank | L | H | J |
|-------|---------|---------|---------|
| Range | 120-200 | 200-350 | 300-400 |

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--------------------------------------|-----|-----|-----|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = 100\mu A, I_E = 0$ | 40 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = 1\text{ mA}, I_B = 0$ | 25 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = 100\mu A, I_C = 0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = 40V, I_E = 0$ | | | 0.1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE} = 20V, I_B = 0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 5V, I_C = 0$ | | | 0.1 | μA |
| DC current gain | h_{FE1} | $V_{CE} = 1V, I_C = 50mA$ | 120 | | 400 | |
| | h_{FE2} | $V_{CE} = 1V, I_C = 500mA$ | 50 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500mA, I_B = 50mA$ | | | 0.6 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 500mA, I_B = 50mA$ | | | 1.2 | V |
| Transition frequency | f_T | $V_{CE} = 6V, I_C = 20mA, f = 30MHz$ | 150 | | | MHz |

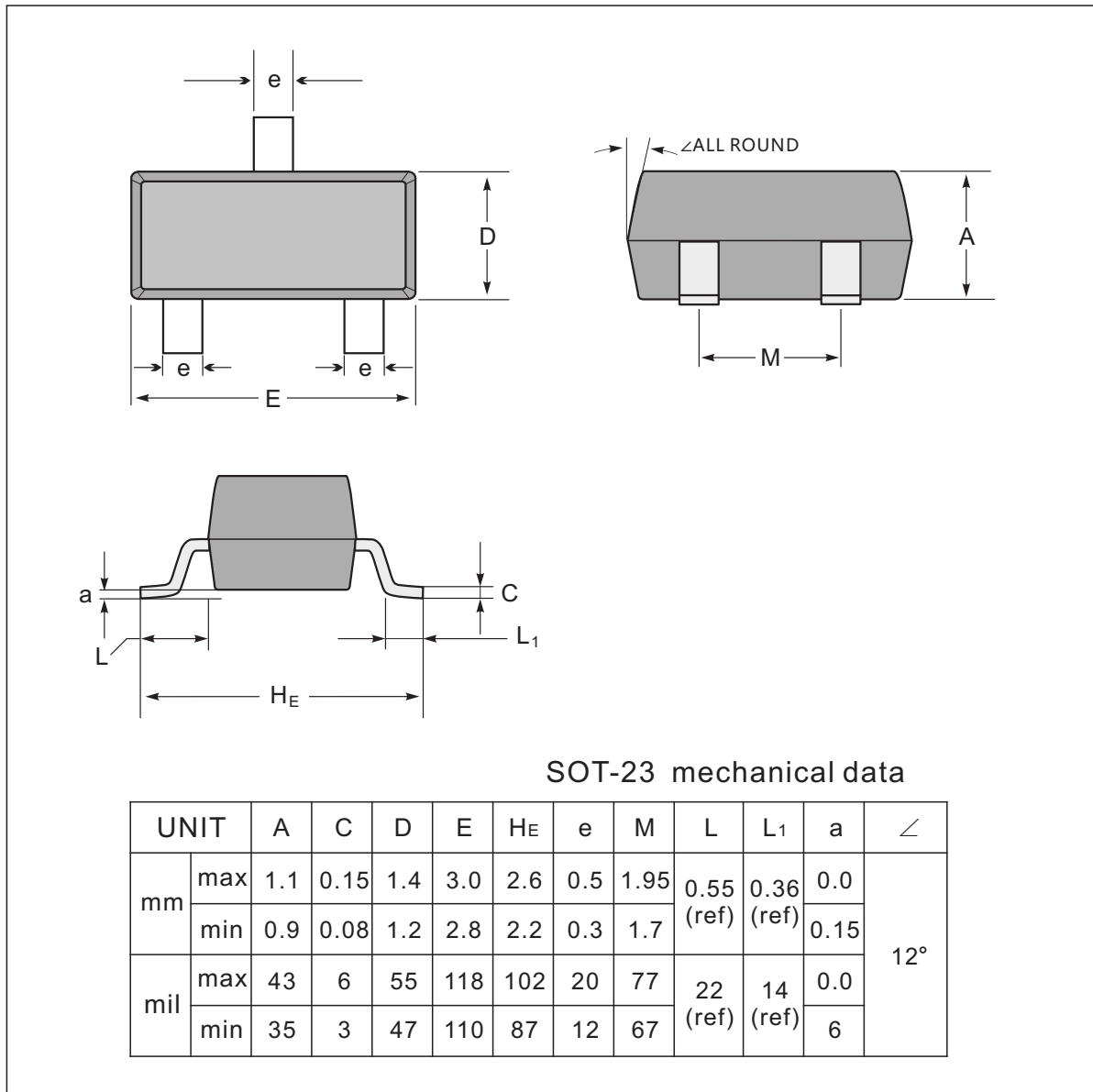


TYPICAL CHARACTERISTICS

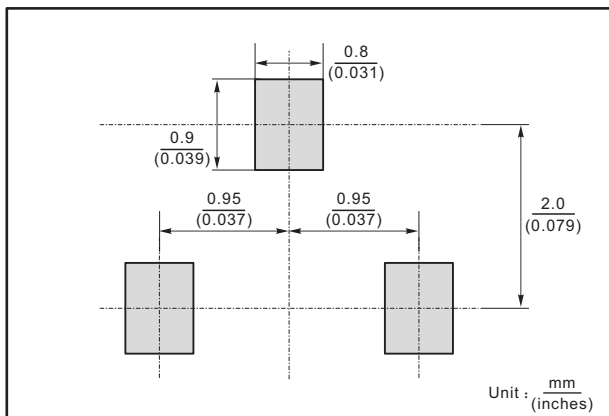




SOT-23 Package Outline Dimensions



The recommended mounting pad size



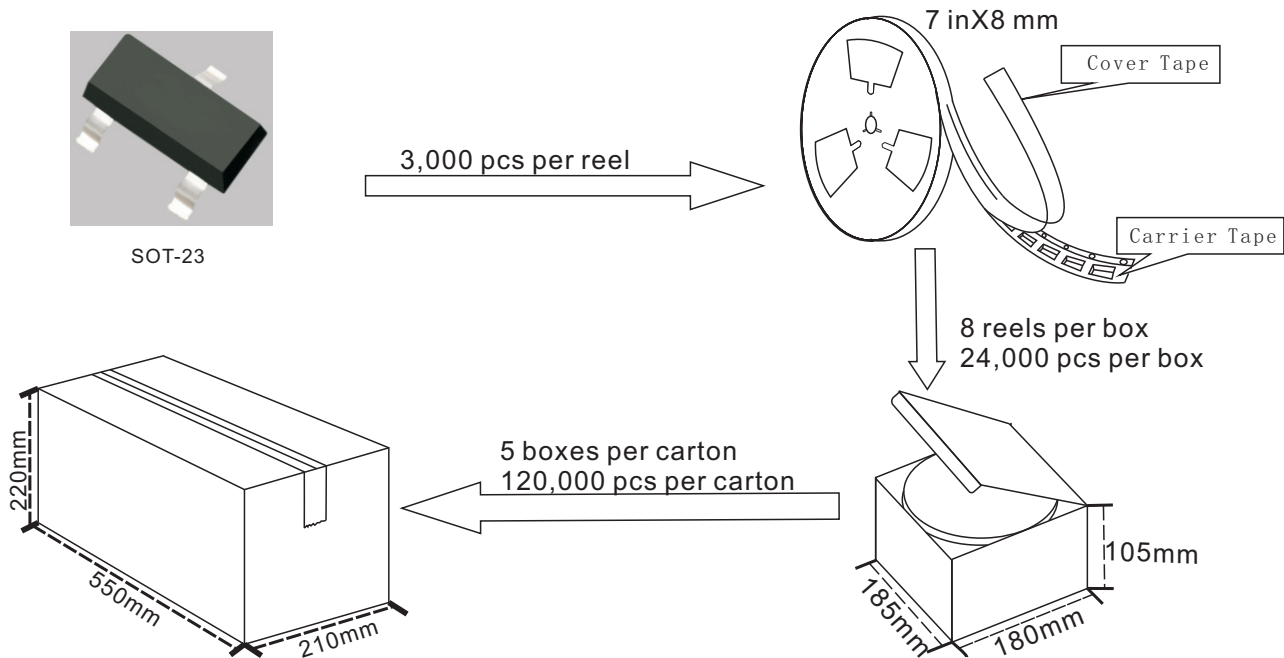
Marking

| Type number | Marking code |
|-------------|--------------|
| S8050 | J3Y |

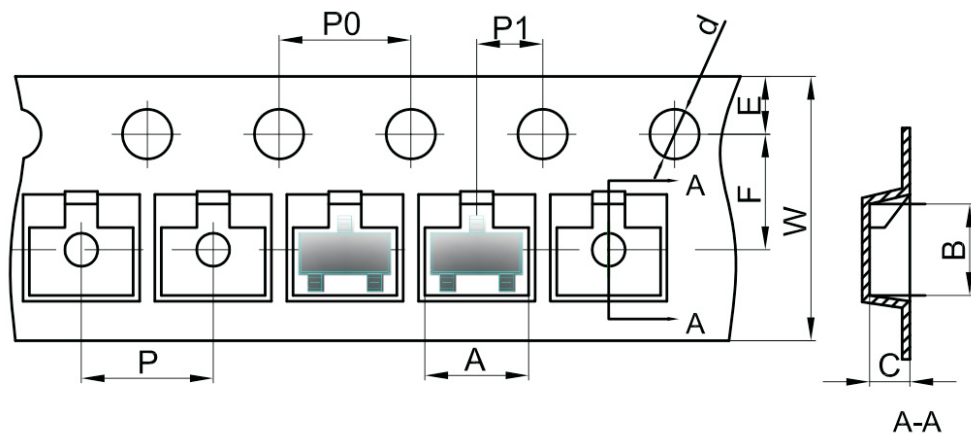


SOT-23 Packing

1. The method of packaging and dimension are shown as below figure. (Dimension in mm)



SOT-23 Embossed Carrier Tape



Dimensions are in millimeter

| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
|----------|------|------|------|-------|------|------|------|------|------|------|
| SOT-23 | 3.15 | 2.77 | 1.22 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOT-23 Tape Leader and Trailer

