

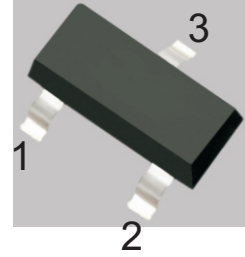
MMBT5401

PNP TRANSISTOR

FEATURES

- Complementary to MMBT5551
- Ideal for Medium Power Amplification and Switching

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} | -160 | V |
| Collector-Emitter Voltage | V_{CEO} | -150 | V |
| Emitter-Base Voltage | V_{EBO} | -5 | V |
| Collector Current — Continuous | I_C | -0.6 | A |
| Collector Dissipation | P_C | 0.3 | W |
| Thermal Resistance From Junction To Ambient | R_{thJA} | 416 | °C/W |
| Operation Junction and Storage Temperature Range | T_J, T_{stg} | -55~+150 | °C |

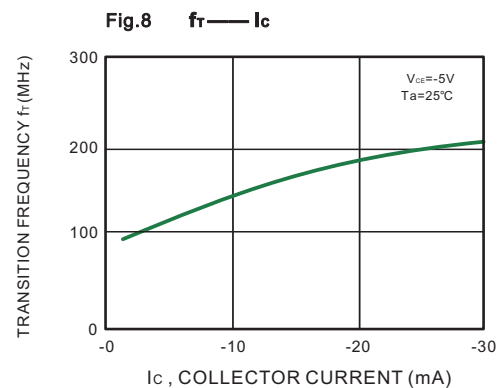
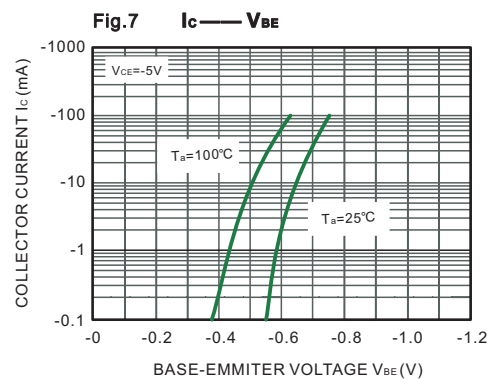
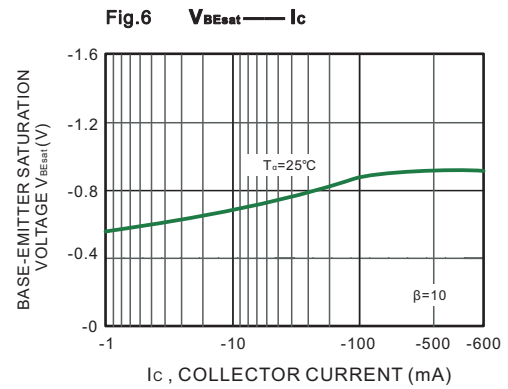
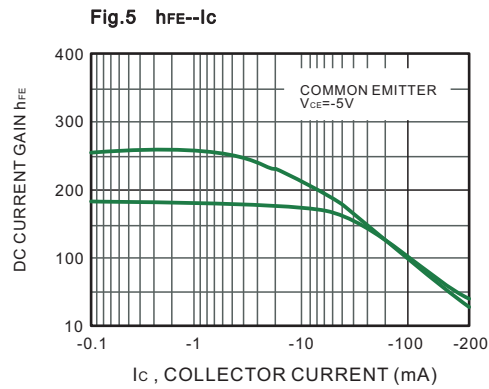
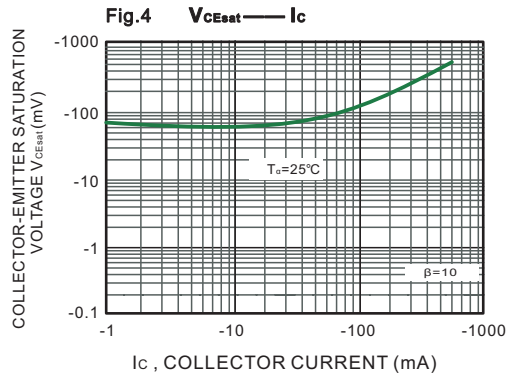
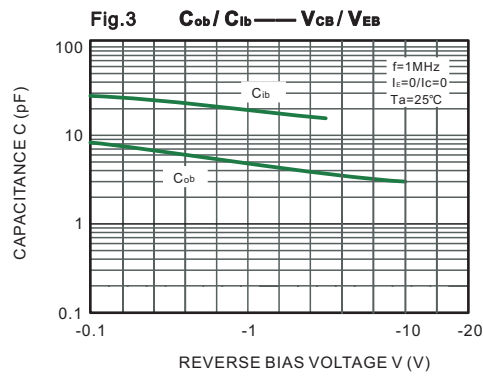
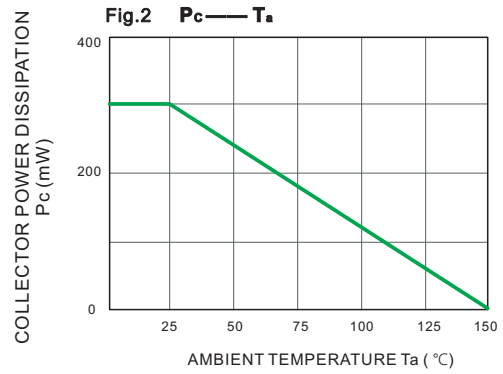
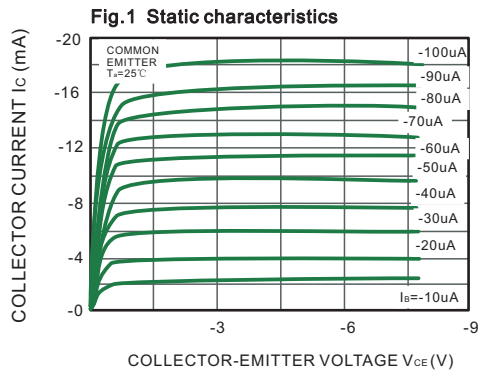
ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|----------------|---|------|-----|------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -100\mu A, I_E = 0$ | -160 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -1\text{ mA}, I_B = 0$ | -150 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -10\mu A, I_C = 0$ | -5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -120V, I_E = 0$ | | | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -4V, I_C = 0$ | | | -0.1 | μA |
| DC current gain | h_{FE1} | $V_{CE} = -5V, I_C = -1\text{ mA}$ | 80 | | | |
| | h_{FE2} | $V_{CE} = -5V, I_C = -10\text{ mA}$ | 100 | | 300 | |
| | h_{FE3} | $V_{CE} = -5V, I_C = -50\text{ mA}$ | 50 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)1}$ | $I_C = -10\text{ mA}, I_B = -1\text{ mA}$ | | | -0.2 | V |
| | $V_{CE(sat)2}$ | $I_C = -50\text{ mA}, I_B = -5\text{ mA}$ | | | -0.5 | V |
| Base-emitter saturation voltage | $V_{BE(sat)1}$ | $I_C = -10\text{ mA}, I_B = -1\text{ mA}$ | | | -1 | V |
| | $V_{BE(sat)2}$ | $I_C = -50\text{ mA}, I_B = -5\text{ mA}$ | | | -1 | V |
| Transition frequency | f_T | $V_{CE} = -25V, I_C = -10\text{ mA}, f = 30\text{ MHz}$ | 100 | | | MHZ |

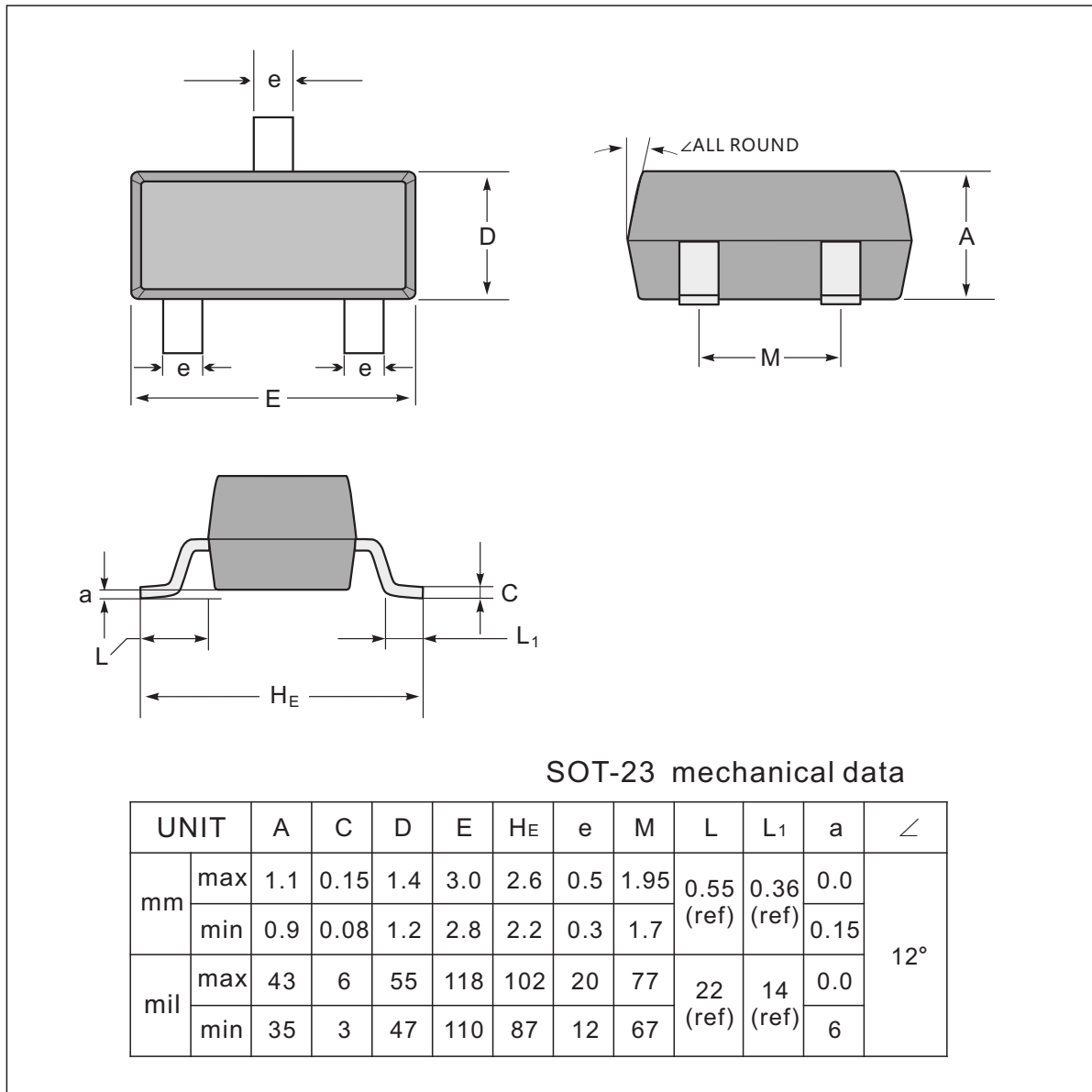
CLASSIFICATION OF $h_{FE(1)}$

| RANK | L | H |
|-------|---------|---------|
| RANGE | 100-200 | 200-300 |

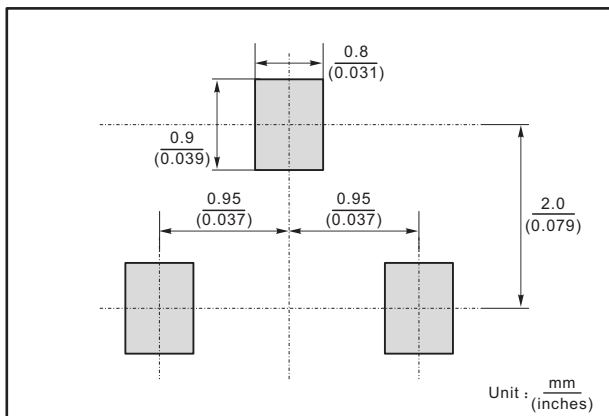
TYPICAL CHARACTERISTICS



SOT-23 Package Outline Dimensions



The recommended mounting pad size

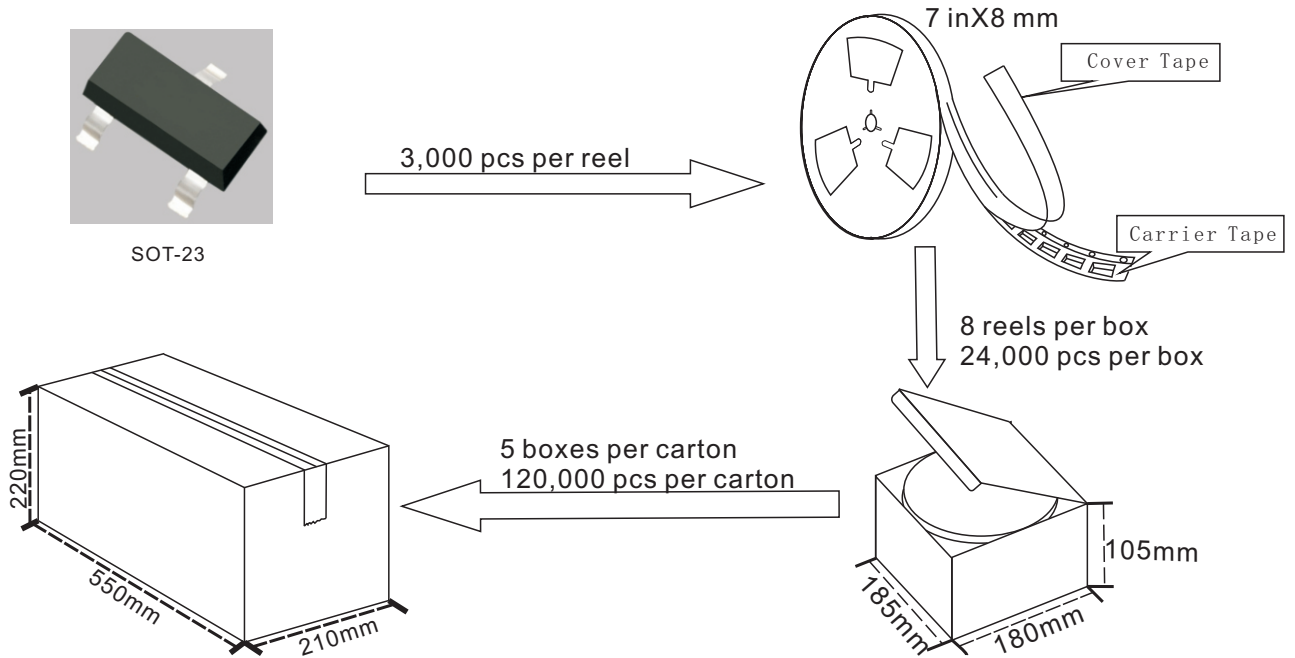


Marking

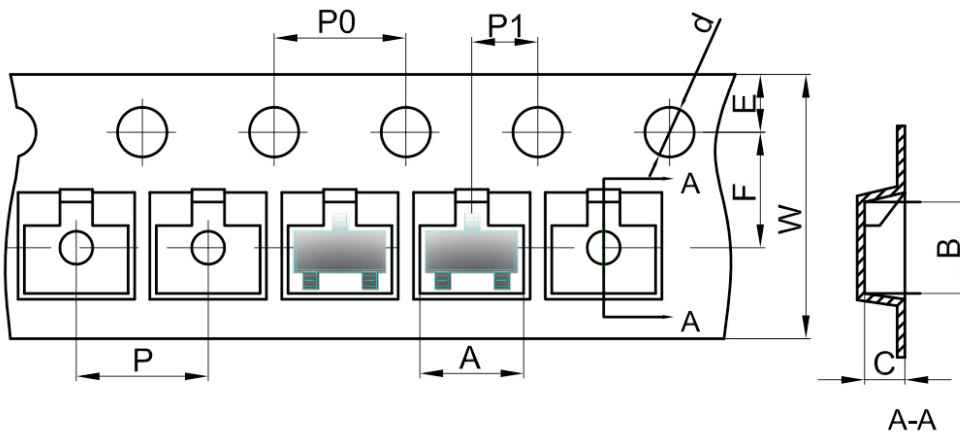
| Type number | Marking code |
|-------------|--------------|
| MMBT5401 | 2L |

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

