## Description

Silicon PNP transistor in a SOT-23 Plastic Package

## Applications

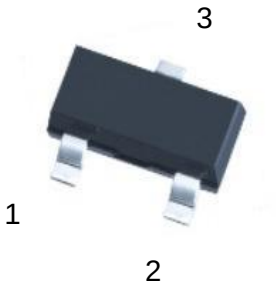
General purpose high voltage amplifier

## Features

- High voltage
- Complementary Pair with MMBT5551
- Halogen-free Product

| Symbol | Parameter | Max | Unit |
|---|---|---|---|
| $V_{CEO}$ | collector-emitter voltage | -160 | V |
| $I_C$ | collector current (DC) | -600 | mA |

## Equivalent Circuit & Pinning


PIN1：Base　　PIN 2：Emitter　　PIN 3：Collector

## hFE Classifications & Marking

| $h_{FE}$ Classifications Symbol | A | B | C |
|---|---|---|---|
| $h_{FE}$ Range | 50～150 | 100～300 | 200～400 |
| Marking | H2LA | H2LB | H2LC |

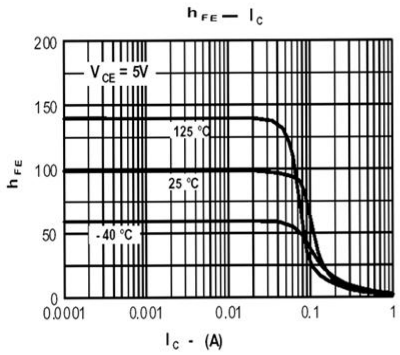
## Absolute Maximum Ratings(Ta=25℃)

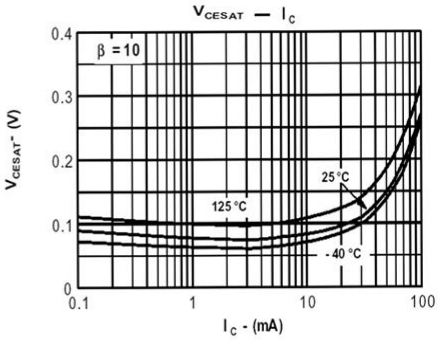
| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector to Base Voltage | $V_{CBO}$ | -180 | V |
| Collector to Emitter Voltage | $V_{CEO}$ | -160 | V |
| Emitter to Base Voltage | $V_{EBO}$ | -6.0 | V |
| Collector Current | $I_C$ | -600 | mA |
| Base Current | $I_B$ | -300 | mA |
| Collector Power Dissipation | $P_C$ | 300 | mW |
| Junction Temperature | $T_j$ | 150 | ℃ |
| Storage Temperature Range | $T_{stg}$ | -55～150 | ℃ |

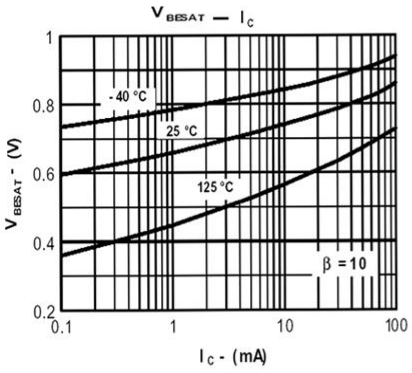
## Electrical Characteristics(Ta=25℃)

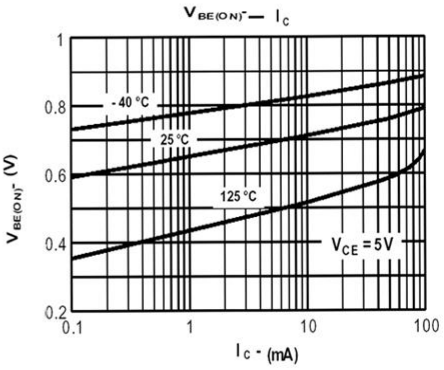
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector to Base Voltage | $V_{CBO}$ | $I_C$=-100uA $I_E$=0 | -180 | | | V |
| Collector to Emitter Voltage | $V_{CEO}$ | $I_C$=-500uA $I_B$=0 | -160 | | | V |
| Emitter to Base Voltage | $V_{EBO}$ | $I_E$=-100uA $I_C$=0 | -6.0 | | | V |
| Collector Cut-Off Current | $I_{CBO}$ | $V_{CB}$=-180V $I_E$=0 | | | -0.1 | μA |
| Collector Cut-Off Current | $I_{CEO}$ | $V_{CE}$=-160V $I_B$=0 | | | -5.0 | μA |
| Emitter Cut-Off Current | $I_{EBO}$ | $V_{EB}$=-6.0V $I_C$=0 | | | -0.1 | μA |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE}$=-5.0V $I_C$=-10mA | 50 | 200 | 400 | |
| | $h_{FE(2)}$ | $V_{CE}$=-5.0V $I_C$=-50mA | 20 | 70 | | |
| | $h_{FE(3)}$ | $V_{CE}$=-5.0V $I_C$=-1.0mA | 40 | 180 | | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)(1)}$ | $I_C$=-10mA $I_B$=-1.0mA | | -0.12 | -0.4 | V |
| | $V_{CE(sat)(2)}$ | $I_C$=-50mA $I_B$=-5.0mA | | -0.5 | -0.8 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)(1)}$ | $I_C$=-10mA $I_B$=-1.0mA | | -0.75 | -1.0 | V |
| | $V_{BE(sat)(2)}$ | $I_C$=-50mA $I_B$=-5.0mA | | -0.8 | -1.0 | V |
| Base-Emitter Voltage | $V_{BE}$ | $V_{CE}$=-5.0V $I_C$=-10mA | | -0.7 | -0.75 | V |
| Transition Frequency | $f_T$ | $V_{CE}$=-10V $I_C$=-10mA | 50 | 80 | | MHz |
| Collector Output Capacitance | $C_{ob}$ | $V_{CB}$=-10V $I_E$=0 f=10MHz | | 2.5 | 5.0 | pF |
| Turn-on Time | $t_{on}$ | $I_C$=-100mA $-I_{B1}=I_{B2}$=-10mA | | 0.1 | | μs |
| Storage Time | $t_{off}$ | | | 0.2 | | μs |
| Fall Time | $t_{stg}$ | | | 0.1 | | μs |

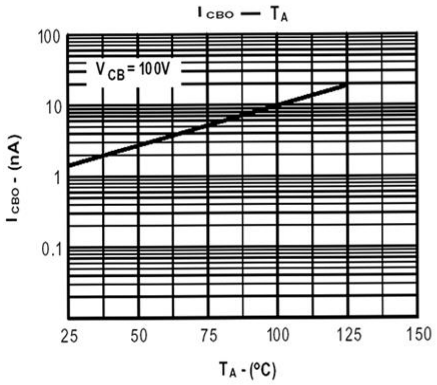
## Electrical Characteristic Curve

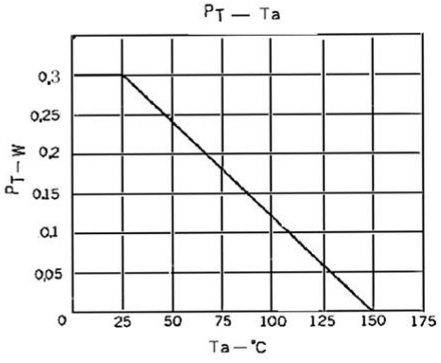


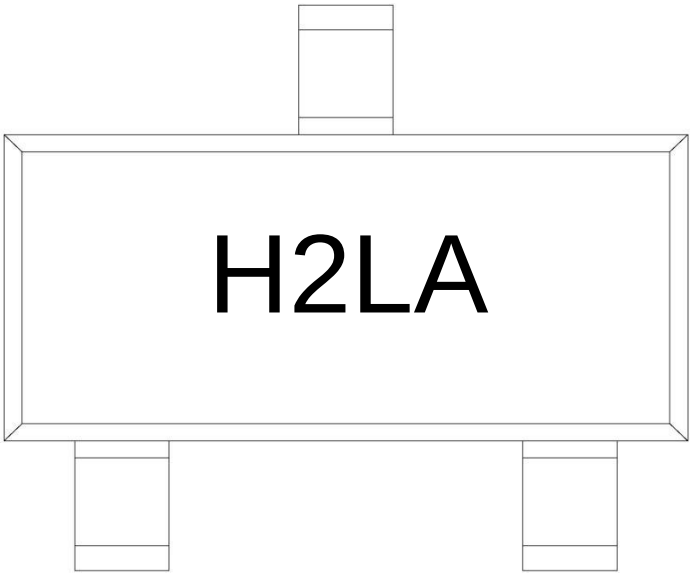



## Marking Instructions




Note:

H: Company Code

2L: Product Type Code

A: $h_{FE}$ Classifications Symbol Code

| $h_{FE}$ Classifications Symbol | A | B | C |
|---|---|---|---|
| $h_{FE}$ Range | 50～150 | 100～300 | 200～400 |
| Marking | H2LA | H2LB | H2LC |

## Packaging SPEC.

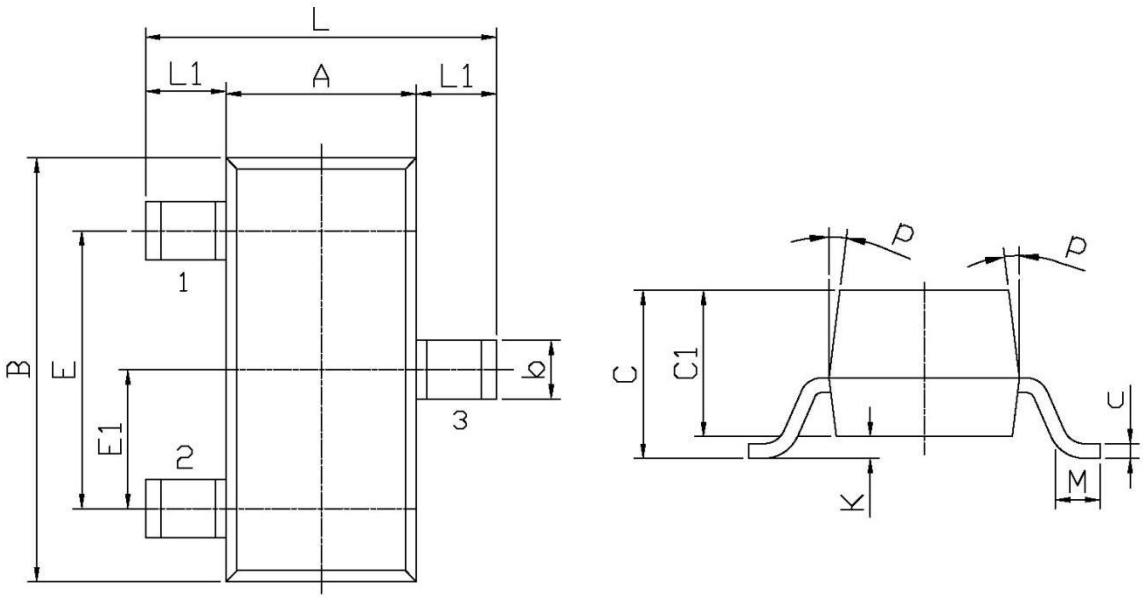
REEL INFORMATION

| Package Type | Units | | | | | Dimension (unit: $mm^3$) | | |
|---|---|---|---|---|---|---|---|---|
| | Units/Reel | Reels/Inner Box | Units/Inner Box | Inner Boxes/Outer Box | Units/Outer Box | Reel | Inner Box | Outer Box |
| SOT-23 | 3,000 | 10 | 30,000 | 6 | 180,000 | 7″ ×8 | 180×120×180 | 390×385×205 |

## Package Outline Dimensions

SOT-23

单位：mm




| Symbol | Dimensions In Millmeters | | Symbol | Dimensions In Millmeters | |
|---|---|---|---|---|---|
| | Min | Max | | Min | Max |
| L | 2.2 | 2.7 | C | 1.30Max | |
| L1 | 0.45 | 0.65 | C1 | 0.90 | 1.20 |
| A | 1.15 | 1.50 | c | 0.05 | 0.20 |
| B | 2.70 | 3.10 | K | 0 | 0.10 |
| E | 1.70 | 2.10 | M | 0.20MIN | |
| E1 | 0.85 | 1.05 | P | 7° | |
| b | 0.35 | 0.55 | | | |