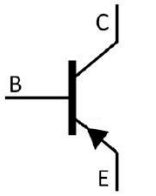
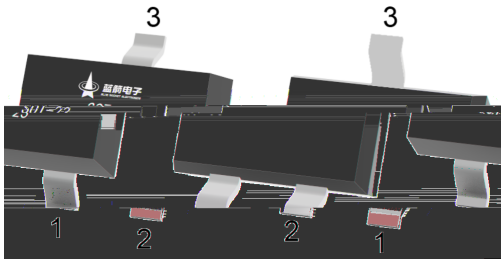
SOT-23 PNP Silicon PNP transistor in a SOT-23 Plastic Package.

500mA

Collector currents up to 500 mA.

General purpose amplifier and switch requiring.



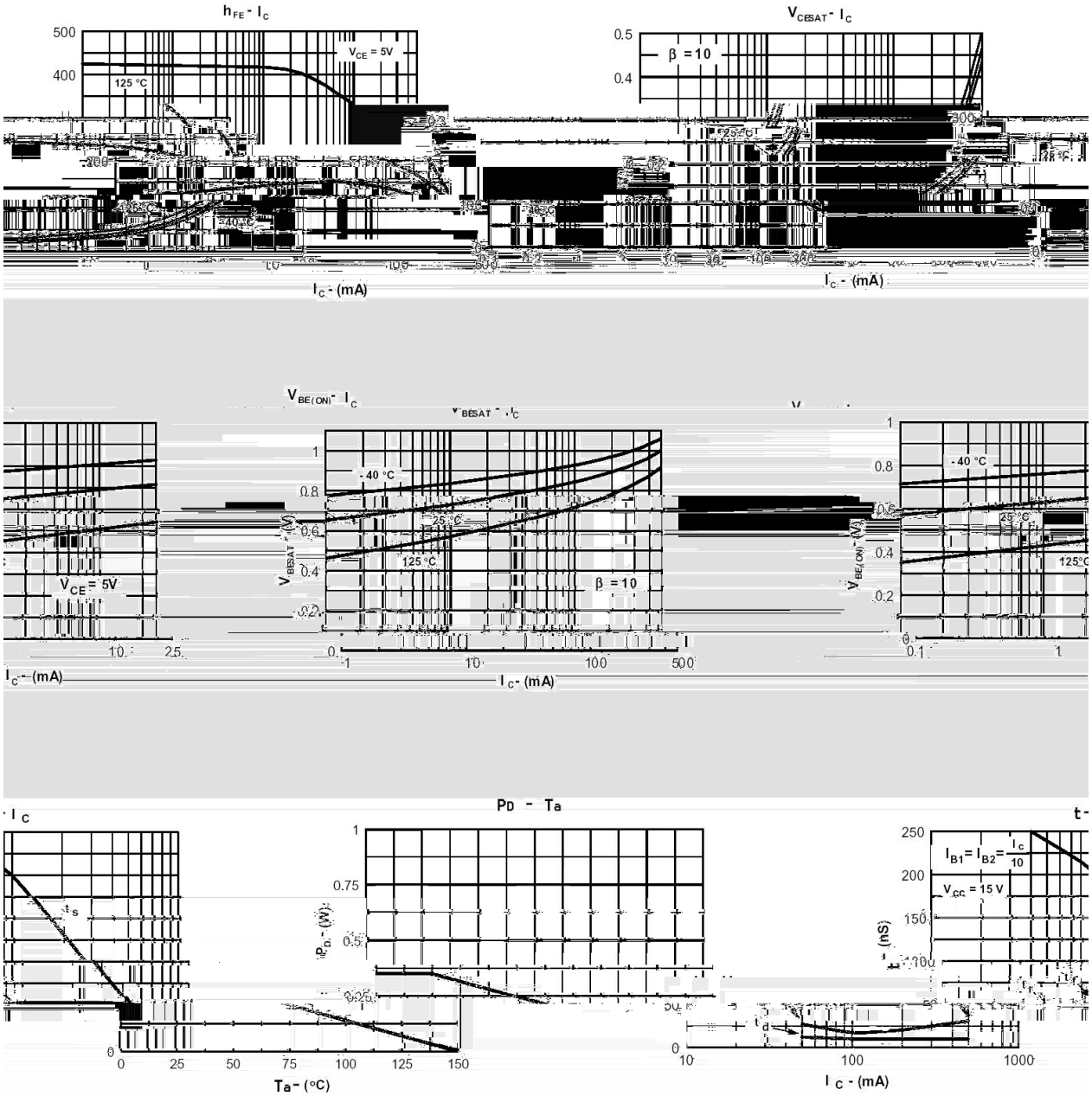




PIN 1 Base PIN 2 Emitter PIN 3 Collector

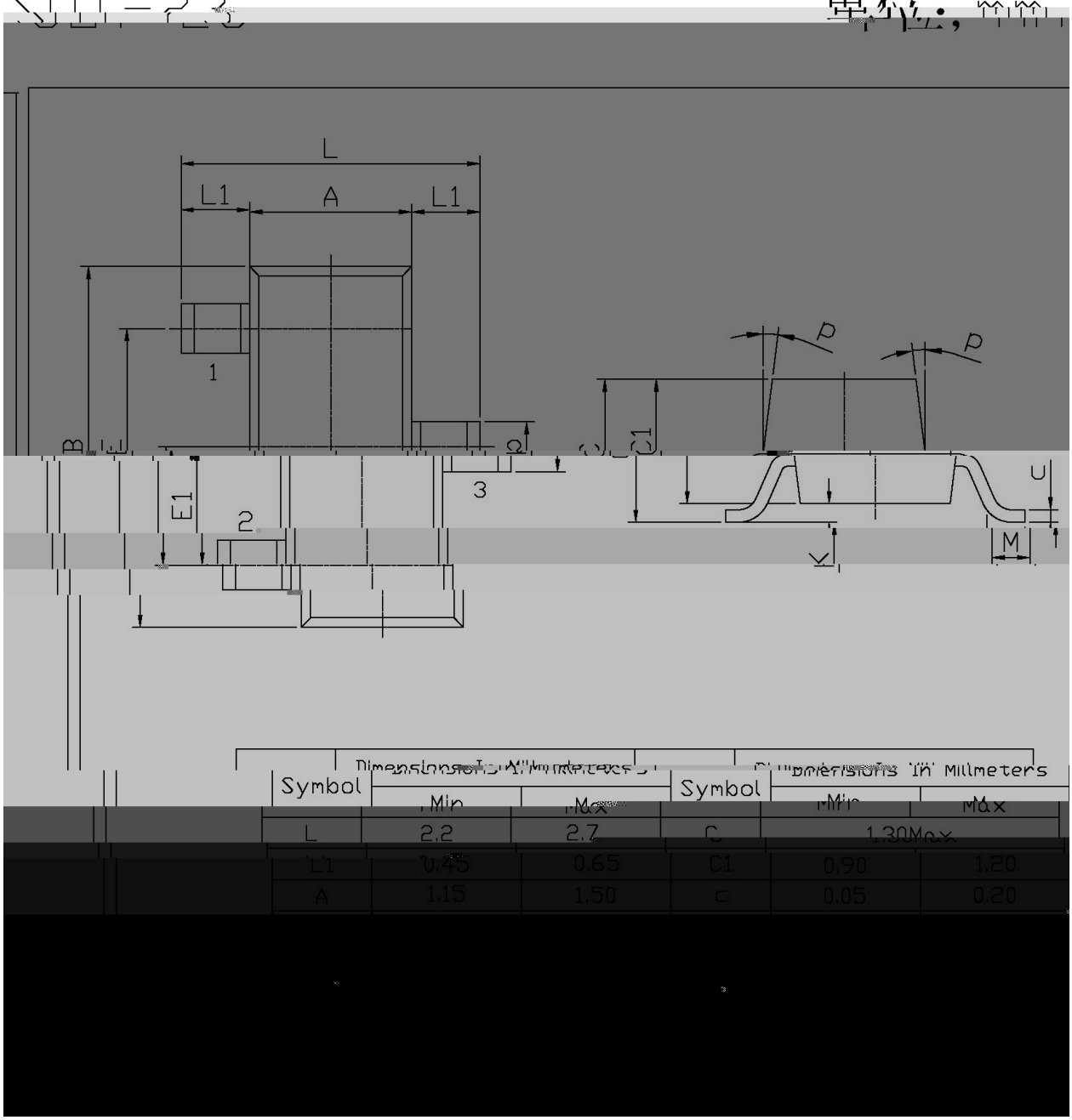
| | |
|---|---|
| $h_{FE}$ Range | 100 300 |
| Marking | 2TH |

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector to Base Voltage | $V_{CBO}$ | -40 | V |
| Collector to Emitter Voltage | $V_{CEO}$ | -40 | V |
| Emitter to Base Voltage | $V_{EBO}$ | -5.0 | V |
| Collector Current | $I_C$ | -600 | mA |
| Collector Power Dissipation | $P_C$ | 350 | mW |
| Junction Temperature | $T_j$ | 150 | |
| Storage Temperature Range | $T_{stg}$ | -55 150 | |

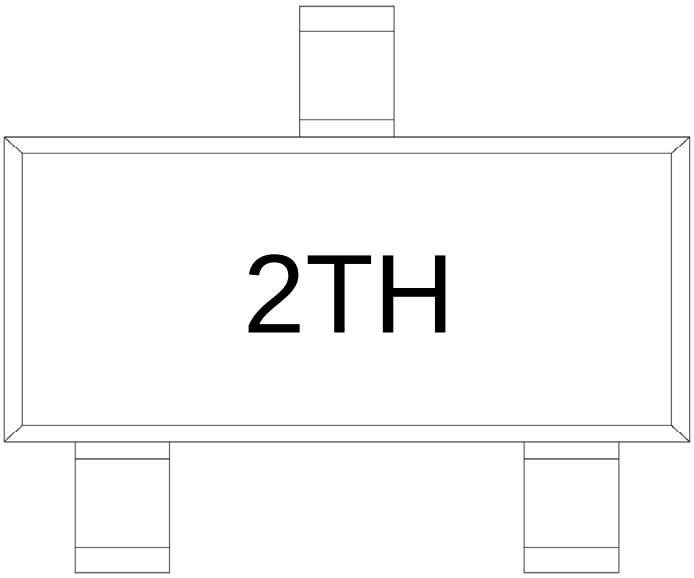
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector to Base Breakdown Voltage | $V_{CBO}$ | $I_C$=-0.1mA $I_E$=0 | -40 | | | V |
| Collector to Emitter Breakdown Voltage | $V_{CEO}$ | $I_C$=-1.0mA $I_B$=0 | -40 | | | V |
| Emitter to Base Breakdown Voltage | $V_{EBO}$ | $I_E$=-0.1mA $I_C$=0 | -5.0 | | | V |
| Collector Cut-Off Current | $I_{CBO}$ | $V_{CB}$=-40V $I_E$=0 | | | -50 | nA |
| Emitter Cut-Off Current | $I_{EBO}$ | $V_{EB}$=-5.0V $I_C$=0 | | | -50 | nA |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE}$=-2.0V $I_C$=-150mA | 100 | | 300 | |
| | $h_{FE(2)}$ | $V_{CE}$=-1.0V $I_C$=-0.1mA | 30 | | | |
| | $h_{FE(3)}$ | $V_{CE}$=-1.0V $I_C$=-1.0mA | 60 | | | |
| | $h_{FE(4)}$ | $V_{CE}$=-1.0V $I_C$=-10mA | 100 | | | |
| | $h_{FE(5)}$ | $V_{CE}$=-2.0V $I_C$=-500mA | 20 | | | |
| Collector-Emitter Saturation voltage | $V_{CE(sat)\ (1)}$ | $I_C$=-150mA $I_B$=-15mA | | | -0.4 | V |
| | $V_{CE(sat)\ (2)}$ | $I_C$=-500mA $I_B$=-50mA | | | -0.75 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)\ (1)}$ | $I_C$=-150mA $I_B$=-15mA | -0.75 | | -0.95 | V |
| | $V_{BE(sat)\ (2)}$ | $I_C$=-500mA $I_B$=-50mA | | | -1.3 | V |
| Transition Frequency | $f_T$ | $V_{CE}$=-10V $I_C$=-20mA f=100MHz | 200 | | | MHz |
| Delay Time | $t_d$ | $V_{CC}$=-30V $I_C$=-150mA $I_{B1}$=-15mA | | | 15 | ns |
| Rise Time | $t_r$ | | | | 20 | ns |
| Storage Time | $t_s$ | $V_{CC}$=-30V $I_C$=-150mA $I_{B1}$=$I_{B2}$=-15mA | | | 225 | ns |
| Fall Time | $t_f$ | | | | 30 | ns |


h_FE - I_C
V_CE = 5V
125 °C
I_C - (mA)
V_CESAT - I_C
β = 10
I_C - (mA)
V_BE(ON) - I_C
V_CE = 5V
I_C - (mA)
V_BESAT - I_C
- 40 °C
25 °C
125 °C
β = 10
I_C - (mA)
- 40 °C
25 °C
125°C
P_D - Ta
Ta - (°C)
I_B1 = I_B2 = I_C / 10
V_CC = 15 V
I_C - (mA)

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 |



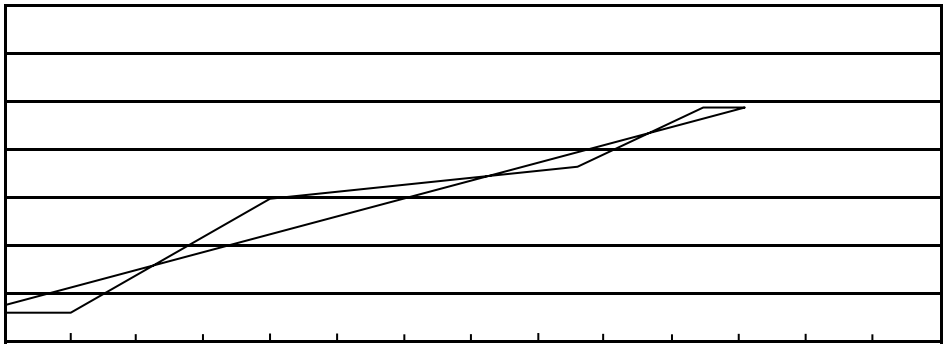

2T

H

Note:

| | |
|---|---|
| 2T | Product Type Code |
| H | Company Code |

## Temperature Profile for IR Reflow Soldering(Pb-Free)



| | | | |
|---|---|---|---|
| | | Note: | |
| 1 | 150 180 60 90sec; | 1.Preheating:150~180 , Time:60~90sec. | |
| 2 | 245±5 5±0.5sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. | |
| 3 | 2 10 /sec. | 3. Cooling Speed: 2~10 /sec. | |

| | | | |
|---|---|---|---|
| 260±5 | 10±1 sec. | Temp.:260±5 | Time:10±1 sec |

/ REEL

| Package Type | Units | | | | | Dimension | | (unit mm³) |
|---|---|---|---|---|---|---|---|---|
| | 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 |