## / Descriptions

SOT-323 PNP Silicon PNP transistor in a SOT-323 Plastic Package.

## / Features

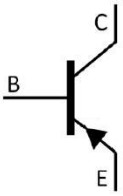
BC847W

High current, low voltage complementary pair with BC847W,HF Product.

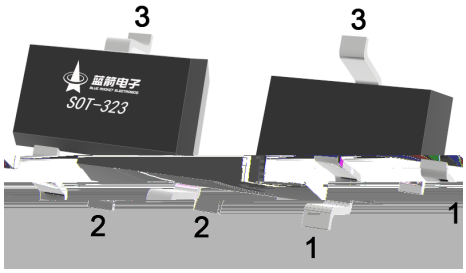
## / Applications

General purpose switching and amplification.

## / Equivalent Circuit




## / Pinning




PIN1 Base PIN 2 Emitter PIN 3 Collector

## / $h_{FE}$ Classifications & Marking

| $h_{FE}$ Classifications Symbol | A | B | C |
|---|---|---|---|
| $h_{FE}$ Range | 125 250 | 220 475 | 420 800 |
| Marking | H3E | H3F | H3G |

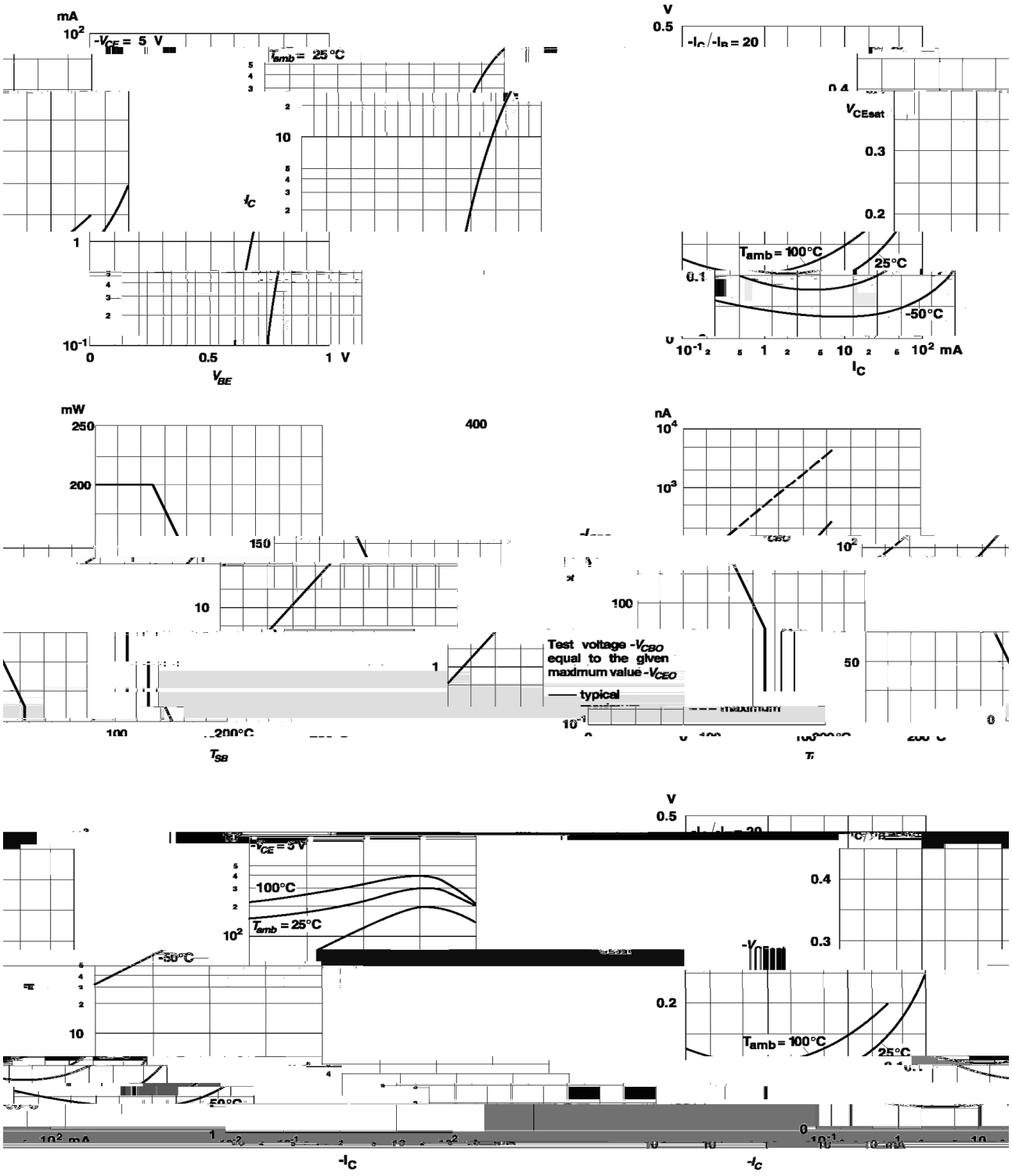
## / Absolute Maximum Ratings(Ta=25 )

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector to Base Voltage | $V_{CBO}$ | -50 | V |
| Collector to Emitter Voltage | $V_{CEO}$ | -45 | V |
| Emitter to Base Voltage | $V_{EBO}$ | -5.0 | V |
| Collector Current - Continuous | $I_C$ | -100 | mA |
| Peak Collector Current - Continuous | $I_{CM}$ | -200 | mA |
| Peak Base Current | $I_{BM}$ | -200 | mA |
| Collector Power Dissipation | $P_C$ | 200 | mW |
| Junction Temperature | $T_j$ | 150 | |
| Storage Temperature Range | $T_{stg}$ | -55 150 | |

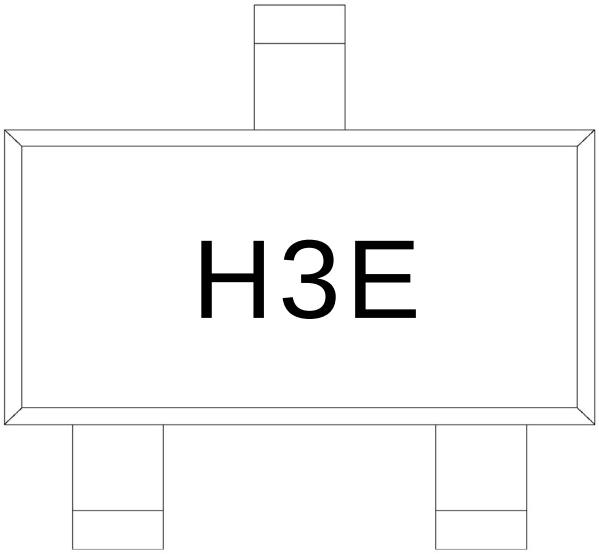
## / Electrical Characteristics(Ta=25 )

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector Cut-Off Current | $I_{CBO}$ | $V_{CB}$=-30V $I_E$=0 | | | -4.0 | μA |
| Emitter to Base Current | $I_{EBO}$ | $V_{EB}$=-5.0V $I_C$=0 | | | -0.1 | μA |
| DC Current Gain | $h_{FE}$ | $V_{CE}$=-5.0V $I_C$=-2.0mA | 125 | | 800 | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)(1)}$ | $I_C$=-10mA $I_B$=-0.5mA | | -0.075 | -0.3 | V |
| | $V_{CE(sat)(2)}$ | $I_C$=-100mA $I_B$=-5.0mA | | -0.25 | -0.6 | V |
| Base to Emitter Saturation Voltage | $V_{BE(sat)(1)}$ | $I_C$=-10mA $I_B$=-0.5mA | | -0.7 | | V |
| | $V_{BE(sat)(2)}$ | $I_C$=-100mA $I_B$=-5.0mA | | -0.85 | | V |
| Base to Emitter Voltage | $V_{BE(1)}$ | $V_{CE}$=-5.0V $I_C$=-2.0mA | -0.6 | -0.65 | -0.75 | V |
| | $V_{BE(2)}$ | $V_{CE}$=-5.0V $I_C$=-10mA | | | -0.82 | V |
| Transition Frequency | $f_T$ | $V_{CE}$=-5.0V $I_C$=-10mA f=100MHz | 100 | | | MHz |
| Collector Capacitance | $C_C$ | $V_{CB}$=-10V $I_E$=ie=0 f=1.0MHz | | | 3.0 | pF |
| Emitter Capacitance | $C_e$ | $V_{EB}$=-0.5V $I_C$=$I_c$=0 f=1.0MHz | | | 12 | pF |
| Noise Figure | NF | $I_C$=-200μA $V_{CE}$=-5.0V $R_S$=2KΩ f=1.0KHz B=200Hz | | | 10 | dB |

## / Electrical Characteristic Curve



## / Marking Instructions




H

3E

Note:

H: Company Code

3E: Product Type 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. |

## / Resistance to Soldering Heat Test Conditions

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

## / Packaging SPEC.

/ 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-323 | 3,000 | 10 | 30,000 | 6 | 180,000 | 7 ×8 | 180×120×180 | 390×385×205 |

## / Notices