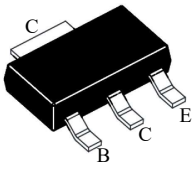
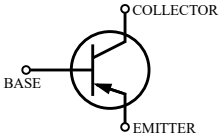
# 2SB955SEH

## *PNP TRANSISTOR*

### *FEATURES*

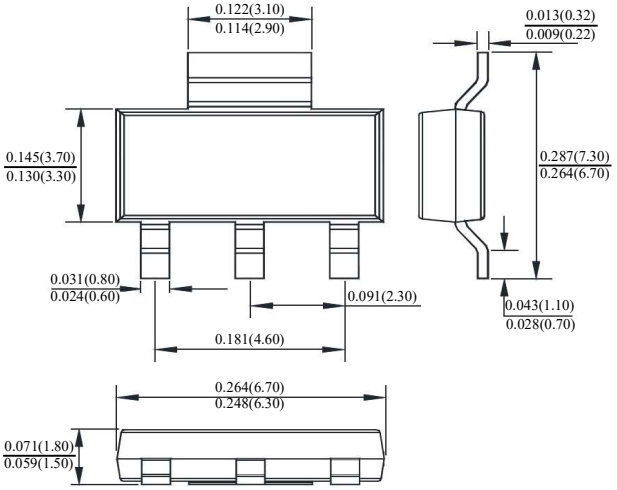
· Suffix "H" indicates Halogen-free parts, ex.2SB955SEH




| | |
|---|---|
| B | Base |
| C | Collector |
| E | Emitter |

**SOT-223**




**Dimensions in inch and (millimeter)**

### *Maximum Ratings($T_A$=25 ℃ unless otherwise noted)*

| Parameter | | Symbol | Value | Unit |
|---|---|---|---|---|
| Collector Base Voltage | | $V_{CBO}$ | -180 | V |
| Collector Emitter Voltage | | $V_{CEO}$ | -140 | V |
| Emitter Base Voltage | | $V_{EBO}$ | -6 | V |
| Collector Current | | $I_C$ | -4 | A |
| Peak Pulse Current | | $I_{CM}$ | -10 | A |
| Power Dissipation | (Note 1) | $P_{tot}$ | 3.00 | W |
| | (Note 2) | | 1.75 | |
| Thermal Resistance from Junction to Ambient | (Note 1) | $R_{\theta JA}$ | 41.7 | ℃/W |
| | (Note 2) | | 71.4 | |
| Operating Temperature Range | | $T_J$ | -55 to +150 | ℃ |
| Storage Temperature Range | | $T_{stg}$ | - 55 to +150 | ℃ |

Note :

1. The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 4 $inch^2$ minimum.
2. Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate.

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### *Electrical Characteristics($T_A$=25 ℃ unless otherwise specified)*

| Parameter | Conditions | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| DC Current Gain | $V_{CE}$=-5V, $I_C$=-10mA | $h_{FE}$ | 100 | - | - | - |
| | $V_{CE}$=-5V, $I_C$=-1A | | 100 | - | 300 | |
| | $V_{CE}$=-5V, $I_C$=-3A | | 75 | - | - | |
| | $V_{CE}$=-5V, $I_C$=-10A | | 5 | - | - | |
| Collector Cutoff Current | $V_{CB}$=-150V | $I_{CBO}$ | - | - | -50 | nA |
| Emitter Cutoff Current | $V_{EB}$=-6V | $I_{EBO}$ | - | - | -10 | nA |
| Collector Base Breakdown Voltage | $I_C$=-100μA | $V_{(BR)CBO}$ | -180 | - | - | V |
| Collector Emitter Breakdown Voltage | $I_C$=-10mA | $V_{(BR)CEO}$ | -140 | - | - | V |
| Emitter Base Breakdown Voltage | $I_E$=-100μA | $V_{(BR)EBO}$ | -6 | - | - | V |
| Collector Emitter Saturation Voltage | $I_C$=-0.1A, $I_B$=-5mA | $V_{CE(sat)}$ | - | - | -60 | mV |
| | $I_C$=-0.5A, $I_B$=-50mA | | - | - | -120 | |
| | $I_C$=-1A, $I_B$=-100mA | | - | - | -150 | |
| | $I_C$=-3A, $I_B$=-300mA | | -30 | - | -370 | |
| Base Emitter Saturation Voltage | $I_C$=-3A, $I_B$=-300mA | $V_{BE(sat)}$ | - | - | -1110 | mV |
| Base Emitter on Voltage | $V_{CE}$=-5V, $I_C$=-3A | $V_{BE(on)}$ | - | - | -950 | mV |
| Transition Frequency | $V_{CE}$=-10V, $I_C$=-100mA, f=50MHz | $f_T$ | - | 110 | - | MHz |
| Output Capacitance | $V_{CB}$=-20V, f=1MHz | $C_{obo}$ | - | 28 | - | pF |
| Turn-On Delay Time | $I_C$=-1A, $I_{B1}$=-100mA, $I_{B2}$=100mA, $V_{CC}$=-50V | $t_{d(on)}$ | - | 68 | - | ns |
| Turn-Off Delay Time | | $t_{d(off)}$ | - | 1030 | - | |

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### *RATINGS AND CHARACTERISTIC CURVES*

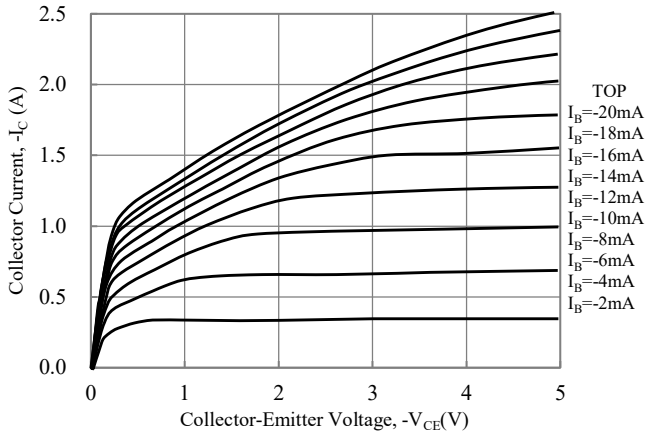


**Fig. 1 Output Characteristics**

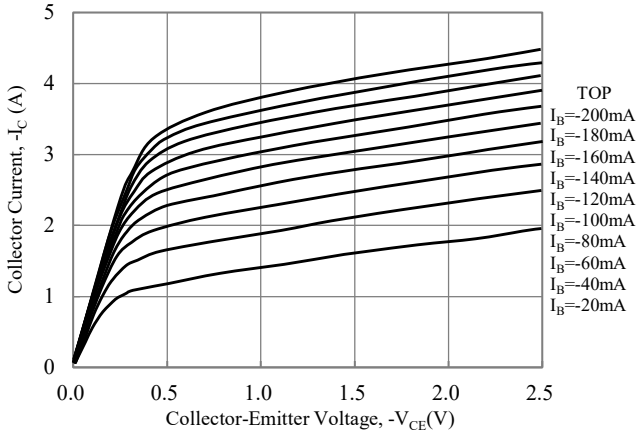


**Fig. 2 Output Characteristics**

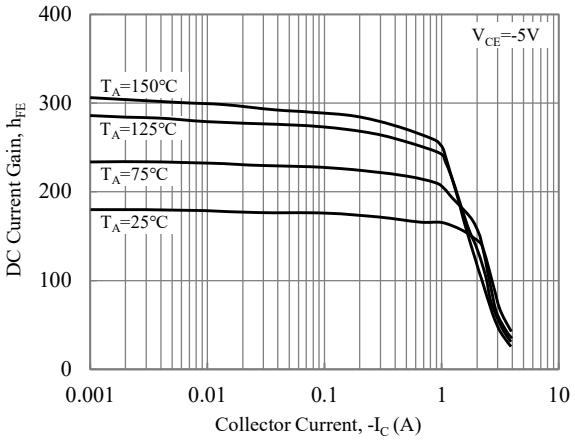


**Fig. 3 Current Gain vs Collector Current**

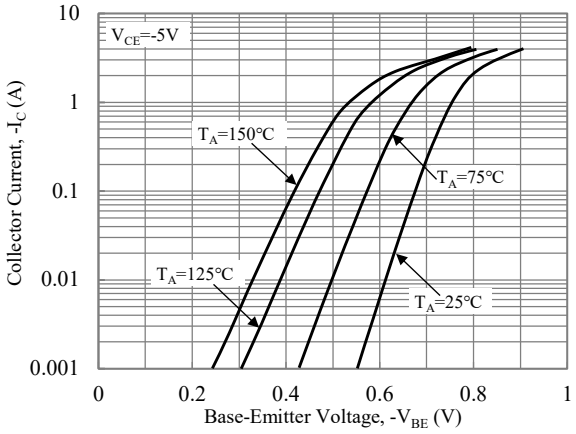


**Fig. 4 Base-Emitter Voltage vs Collector Current**

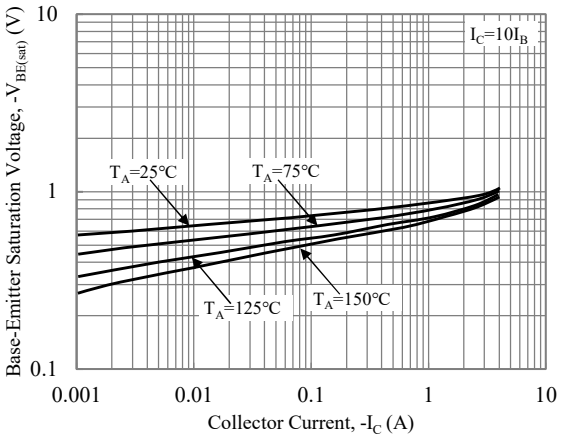


**Fig. 5 Base-Emitter Saturation Voltage vs Collector Current**

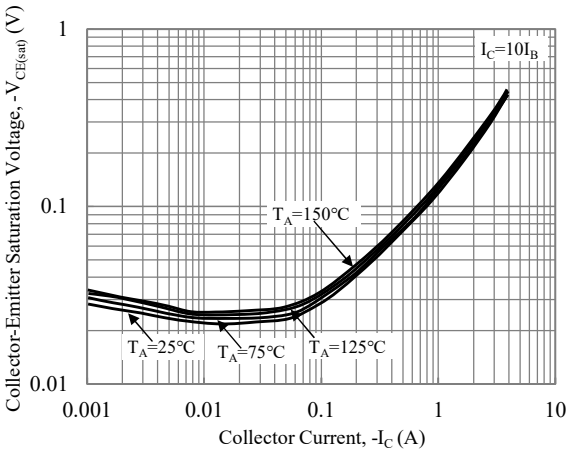


**Fig. 6 Collector-Emitter Saturation Voltage vs Collector Current**

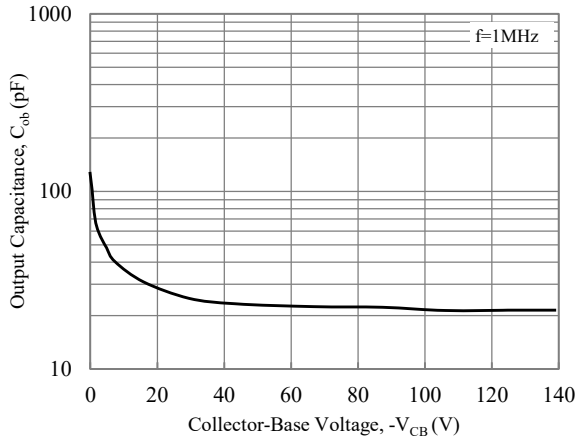


**Fig. 7 Output Capacitance**

***SUGGESTED SOLDER PAD LAYOUT***