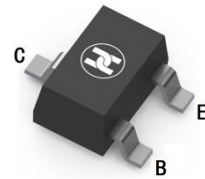
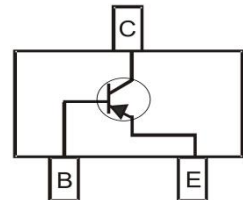


BIPOLAR TRANSISTOR (PNP)
FEATURES

- Complementary to BC847
- Ideally suited for automatic insertion
- For switching and AF amplifier applications
- Surface Mount device


SOT-323

MECHANICAL DATA

- Case: SOT-323
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.008 grams (approximate)

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|------------------|-----------|------|
| Collector-Base Voltage | V _{CB0} | -50 | V |
| Collector-Emitter Voltage | V _{CEO} | -45 | V |
| Emitter-Base Voltage | V _{EBO} | -5 | V |
| Collector Current | I _C | -100 | mA |
| Collector Power Dissipation | P _C | 450 | mW |
| Thermal Resistance From Junction To Ambient | R _{θJA} | 833 | °C/W |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature | T _{STG} | -55 ~+150 | °C |

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

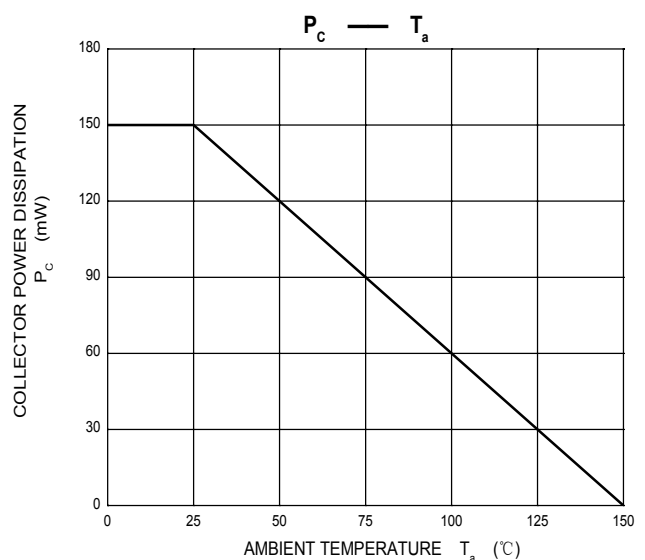
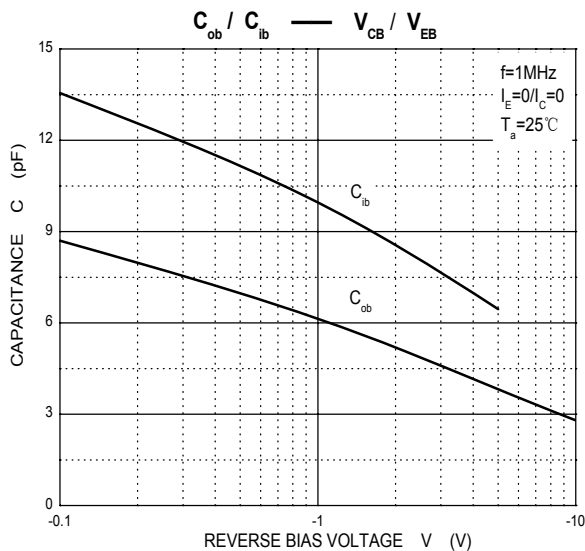
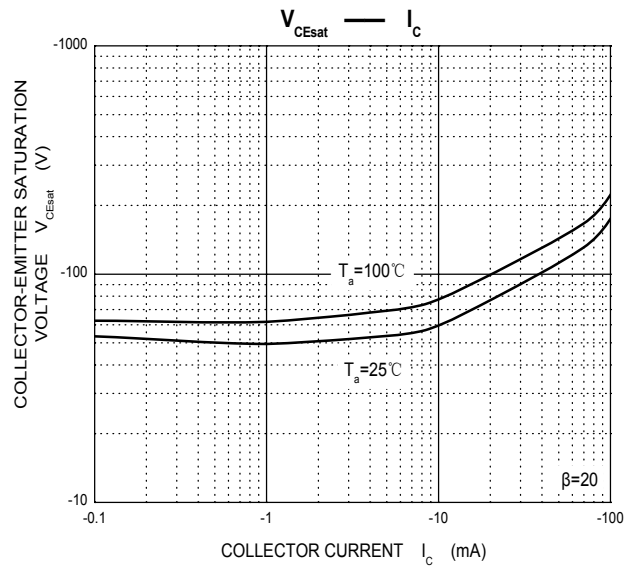
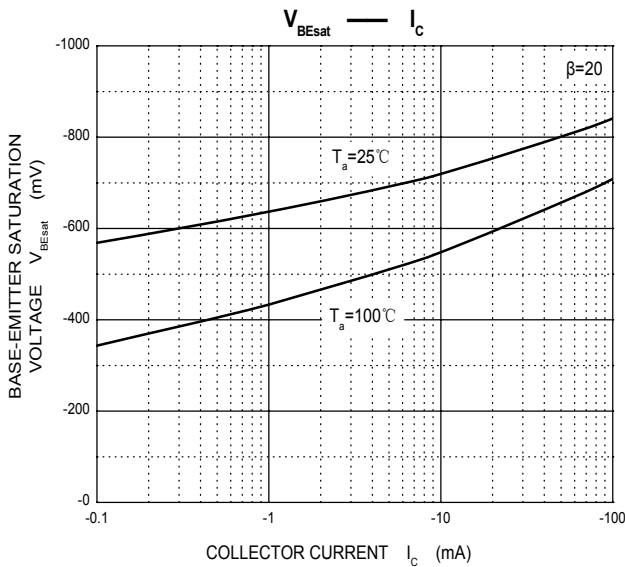
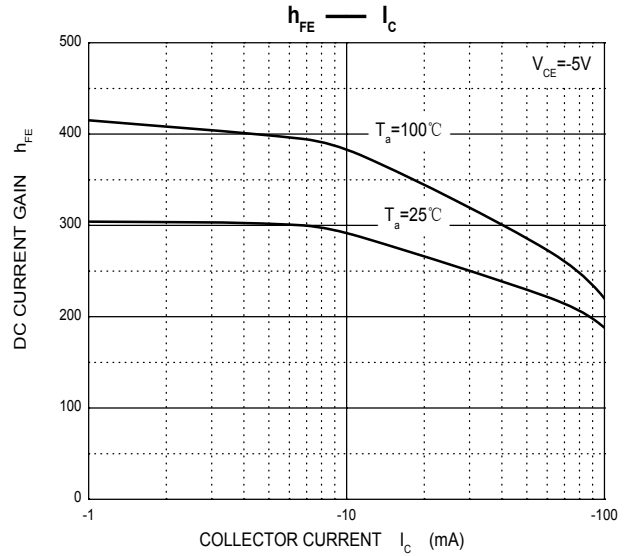
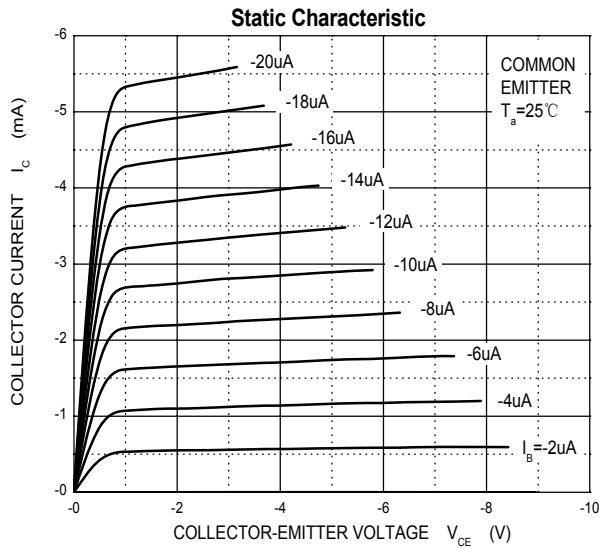
| Parameter | Symbol | Min | Typ | Max | Unit | Conditions |
|--------------------------------------|----------------------|-----|-----|-------|------|--|
| Collector-base breakdown voltage | V _{(BR)CBO} | -50 | | | V | I _C =-10uA , I _E =0 |
| Collector-emitter breakdown voltage | V _{(BR)CEO} | -45 | | | V | I _C =-10mA, I _B =0 |
| Emitter-base breakdown voltage | V _{(BR)EBO} | -5 | | | V | I _B =-1uA , I _C =0 |
| Collector cut-off current | I _{CB0} | | | -0.1 | uA | V _{CB} =-50V, I _E =0 |
| DC current gain | h _{FE} | 100 | | 800 | | V _{CE} =-5V, I _C =-2mA |
| Collector-emitter saturation voltage | V _{CE(sat)} | | | -0.63 | V | I _C =-100mA, I _B =-5mA |
| Base-emitter saturation voltage | V _{BE(sat)} | | | -1.07 | V | I _C =-100mA, I _B =-5mA |
| Transition frequency | f _T | 150 | | | MHz | V _{CE} =-5V, I _C =-10mA, f=30MHz |
| Collector output capacitance | C _{ob} | | | 5 | pF | V _{CE} =-10V, f=1MHz |

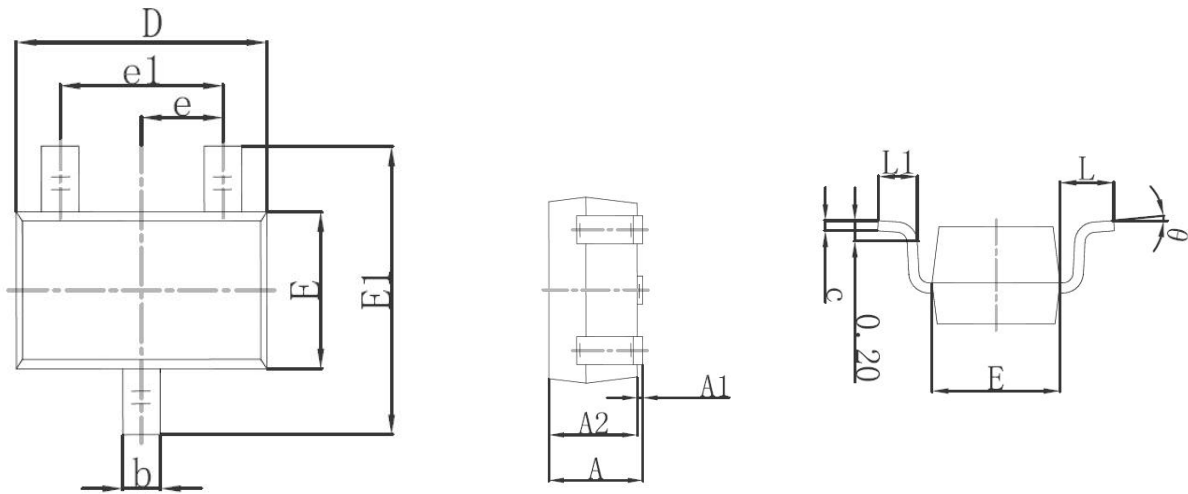
CLASSIFICATION OF h_{FE}

| Rank | BC857AW | BC857BW | BC857CW |
|---------|---------|---------|---------|
| Range | 125-250 | 220-475 | 420-800 |
| Marking | 3E | 3F | 3G |

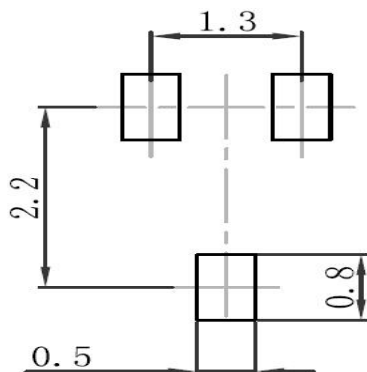
BIPOLAR TRANSISTOR (PNP)

Typical Characteristics



BIPOLAR TRANSISTOR (PNP)
SOT-323 Package Outline Dimensions


| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.900 | 1.100 | 0.035 | 0.043 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.000 | 0.035 | 0.039 |
| b | 0.200 | 0.400 | 0.008 | 0.016 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.000 | 2.200 | 0.079 | 0.087 |
| E | 1.150 | 1.350 | 0.045 | 0.053 |
| E1 | 2.150 | 2.450 | 0.085 | 0.096 |
| e | 0.650TYP | | 0.026TYP | |
| e1 | 1.200 | 1.400 | 0.047 | 0.055 |
| L | 0.525REF | | 0.021REF | |
| L1 | 0.260 | 0.460 | 0.010 | 0.018 |
| θ | 0° | 8° | 0° | 8° |

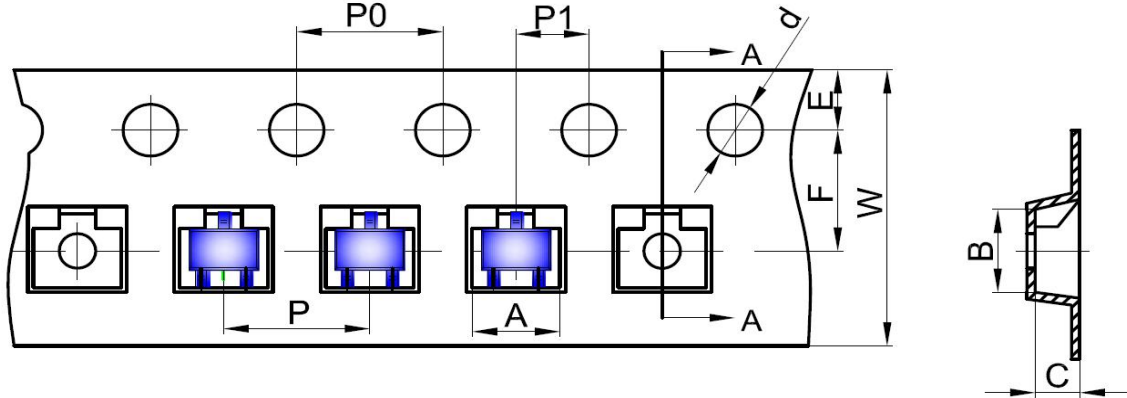
SOT-323 Suggested Pad Layout

Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

BIPOLAR TRANSISTOR (PNP)

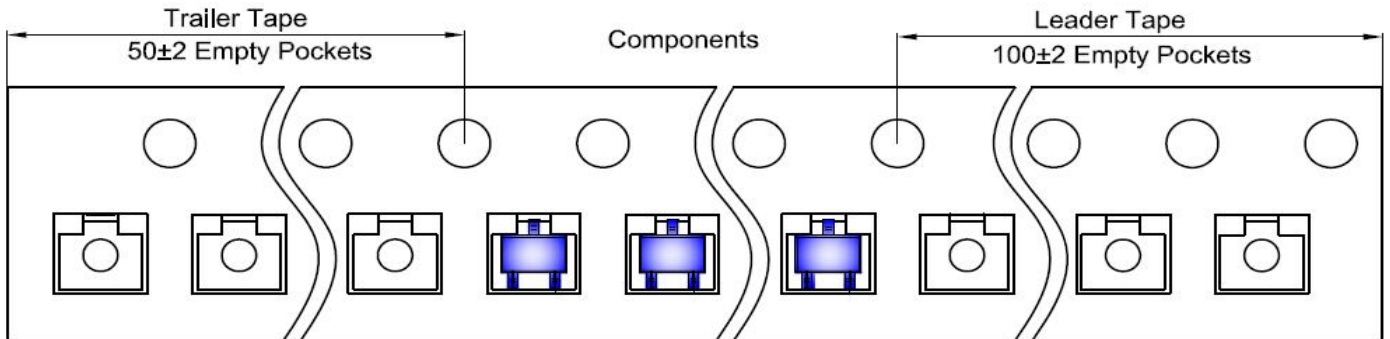
SOT-323 Tape and Reel

SOT-323 Embossed Carrier Tape

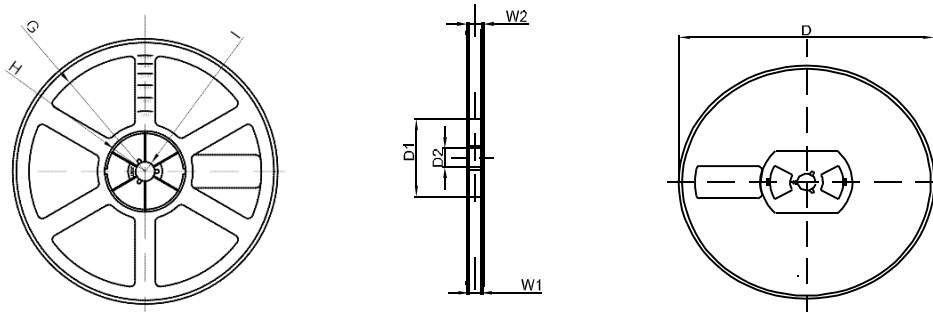


| DIMENSIONS ARE IN MILLIMETER | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|
| TYPE | A | B | C | d | E | F | P0 | P | P1 | W |
| SOT-323 | 2.25 | 2.55 | 1.19 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |
| TOLERANCE | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 |

SOT-323 Tape Leader and Trailer



SOT-323 Reel



| DIMENSIONS ARE IN MILLIMETER | | | | | | | | |
|------------------------------|------|-------|-------|-----|--------|-------|------|-------|
| REEL OPTION | D | D1 | D2 | G | H | I | W1 | W2 |
| 7" DIA | Ø178 | 54.40 | 13.00 | R78 | R25.60 | R6.50 | 9.50 | 12.30 |
| TOLERANCE | ±2 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 |