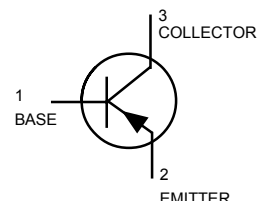
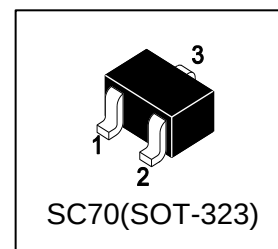


# S-LBC857BWT1G

General Purpose Transistors PNP Silicon

## 1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



## 2. DEVICE MARKING AND ORDERING INFORMATION

| Device        | Marking | Shipping       |
|---------------|---------|----------------|
| S-LBC857BWT1G | 3F      | 3000/Tape&Reel |

## 3. MAXIMUM RATINGS(Ta = 25°C)

| Parameter                      | Symbol | Limits | Unit |
|--------------------------------|--------|--------|------|
| Collector–Emitter Voltage      | VCEO   | -45    | V    |
| Collector–Base Voltage         | VCBO   | -50    | V    |
| Emitter–Base Voltage           | VEBO   | -5     | V    |
| Collector Current — Continuous | IC     | -100   | mA   |

## 4. THERMAL CHARACTERISTICS

| Parameter                                                    | Symbol  | Limits   | Unit |
|--------------------------------------------------------------|---------|----------|------|
| Total Device Dissipation,<br>FR-5 Board (Note 1) @ TA = 25°C | PD      | 150      | mW   |
| Thermal Resistance,<br>Junction–to–Ambient                   | RθJA    | 833      | °C/W |
| Junction and Storage temperature                             | TJ,Tstg | -55~+150 | °C   |

1. FR-5 = 1.0×0.75×0.062 in.

## 5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

### OFF CHARACTERISTICS

| Characteristic                                                         | Symbol   | Min. | Typ. | Max.      | Unit          |
|------------------------------------------------------------------------|----------|------|------|-----------|---------------|
| Collector–Emitter Breakdown Voltage<br>(IC = -10 mA, IB = 0)           | VBR(CEO) | -45  | -    | -         | V             |
| Collector–Emitter Breakdown Voltage<br>(IC = -10 $\mu$ A, VEB = 0)     | VBR(CES) | -50  | -    | -         | V             |
| Collector–Base Breakdown Voltage<br>(IC = -10 $\mu$ A, IE = 0)         | VBR(CBO) | -50  | -    | -         | V             |
| Emitter–Base Breakdown Voltage<br>(IE = -1.0 $\mu$ A, IC = 0)          | VBR(EBO) | -5   | -    | -         | V             |
| Collector Cutoff Current<br>(VCB = -30 V)<br>(VCB = -30 V, TA = 150°C) | ICBO     | -    | -    | -15<br>-4 | nA<br>$\mu$ A |
| Emitter-Base cut-off current<br>(VBE = - 5 V, IC = 0)                  | IEBO     | -    | -    | -100      | nA            |
| Collector-Emitter cutoff Current<br>(VCE= -45V, IB=0)                  | ICEO     | -    | -    | -2        | mA            |

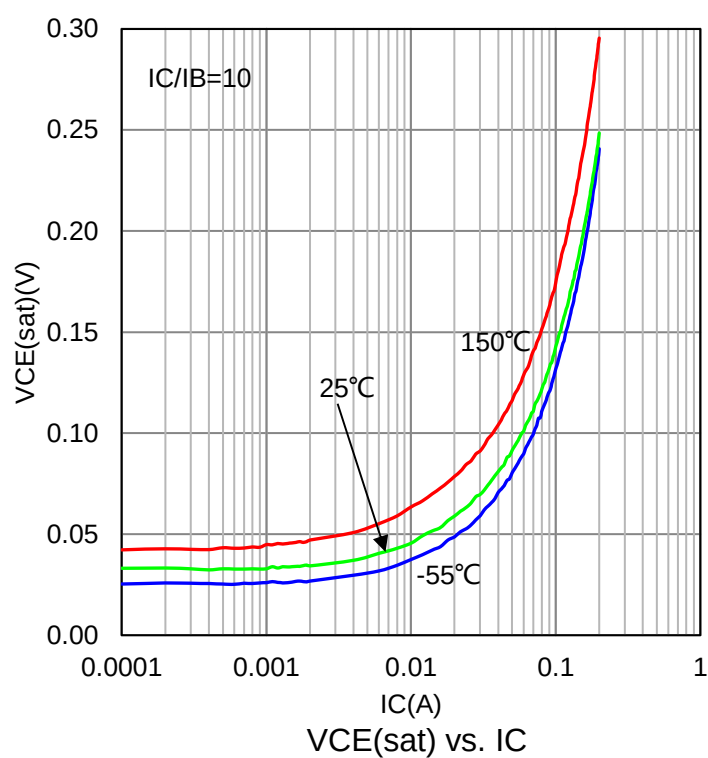
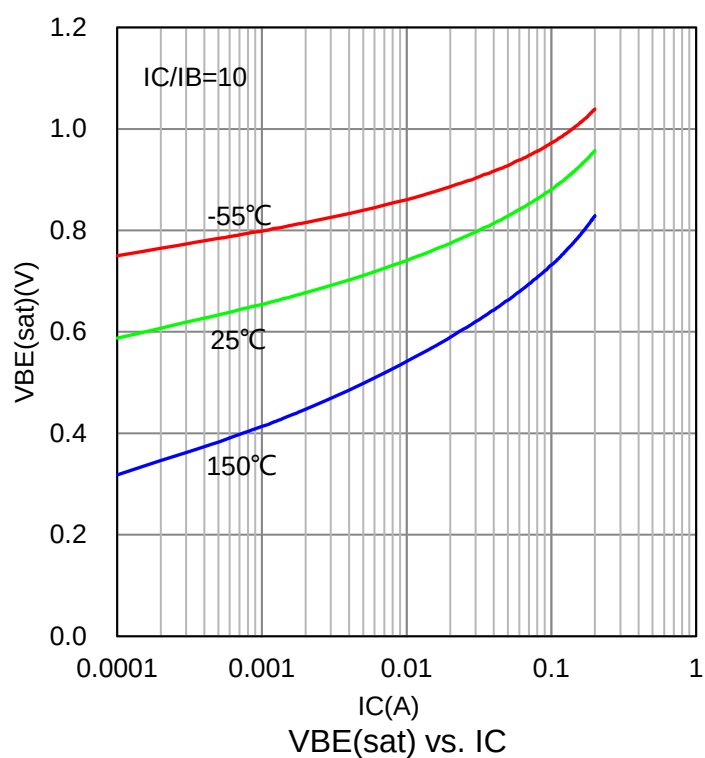
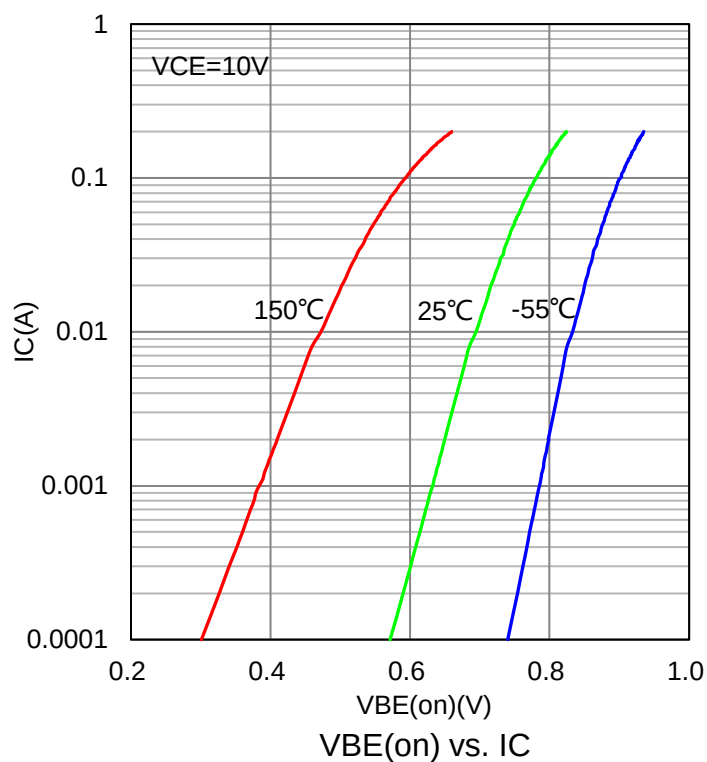
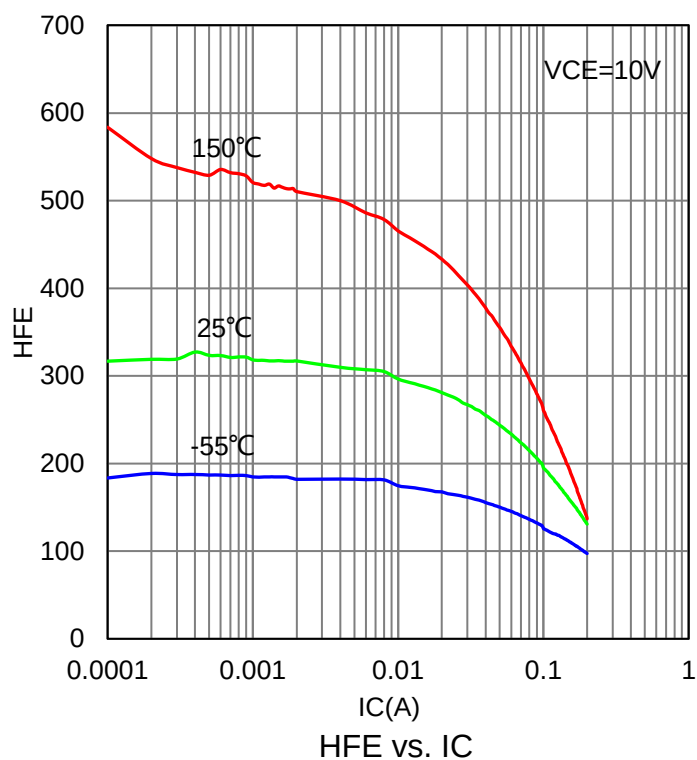
### ON CHARACTERISTICS

|                                                                                                     |          |           |              |                |   |
|-----------------------------------------------------------------------------------------------------|----------|-----------|--------------|----------------|---|
| DC Current Gain<br>(IC = -2.0 mA, VCE = -5.0 V)                                                     | HFE      | 220       | 290          | 475            |   |
| Collector–Emitter Saturation Voltage<br>(IC = -10 mA, IB = -0.5 mA)<br>(IC = -100 mA, IB = -5.0 mA) | VCE(sat) | -         | -            | -0.3<br>-0.65  | V |
| Base–Emitter Saturation Voltage<br>(IC = -10 mA, IB = -0.5 mA)<br>(IC = -100 mA, IB = -5.0 mA)      | VBE(sat) | -         | -0.7<br>-0.9 | -1<br>-1.2     | V |
| Base–Emitter on Voltage<br>(IC = -2.0 mA, VCE = -5.0 V)<br>(IC = -10 mA, VCE = -5.0 V)              | VBE(on)  | -0.6<br>- | -<br>-       | -0.75<br>-0.82 | V |

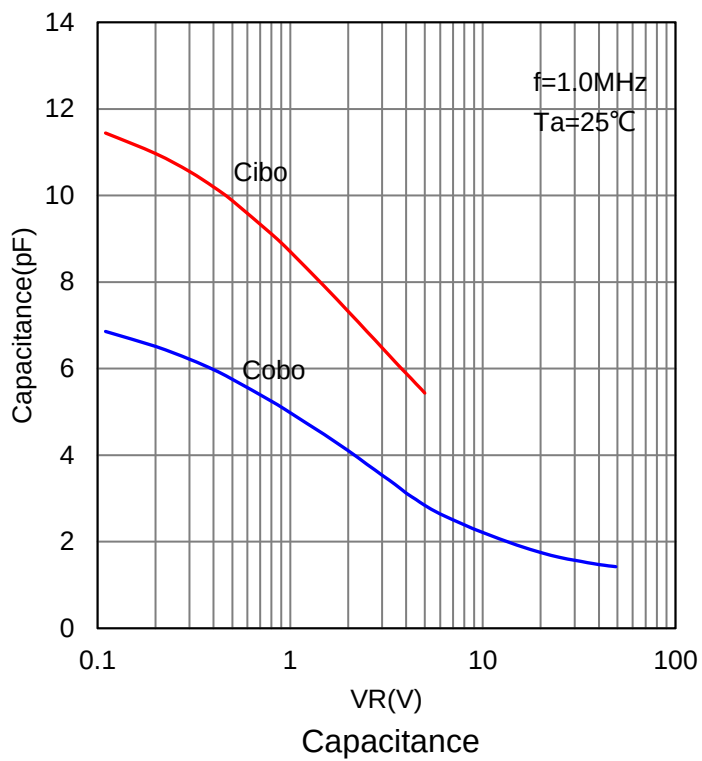
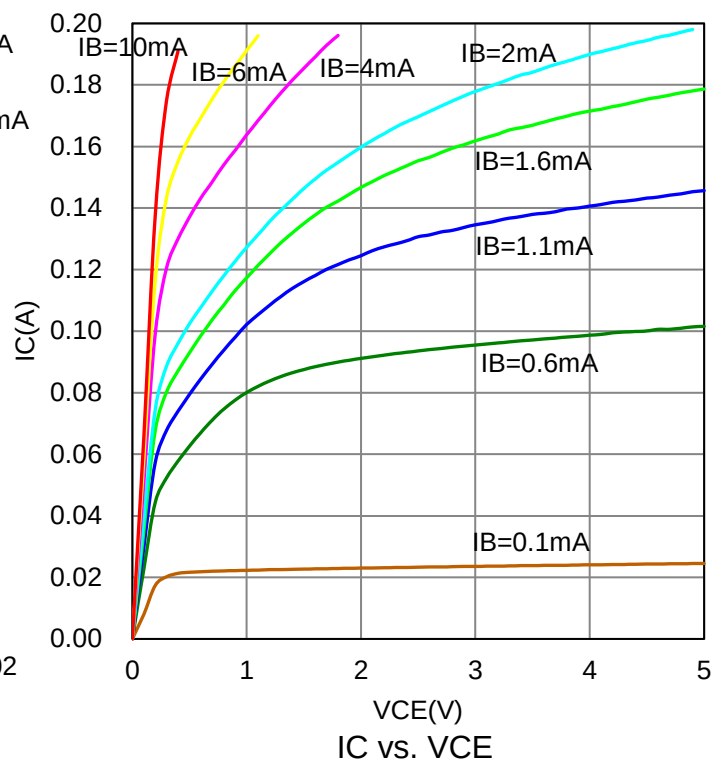
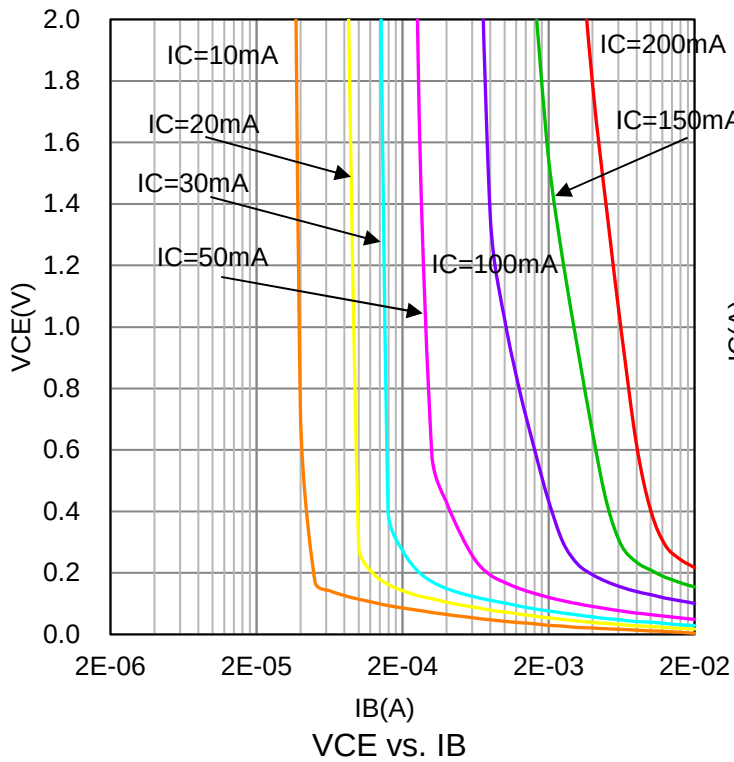
### SMALL–SIGNAL CHARACTERISTICS

|                                                                                               |      |     |   |     |     |
|-----------------------------------------------------------------------------------------------|------|-----|---|-----|-----|
| Current–Gain — Bandwidth Product<br>(IC = -10 mA, VCE = -5.0 V, f = 100 MHz)                  | fT   | 100 | - | -   | MHz |
| Output Capacitance<br>(VCB = -10 V, f = 1.0 MHz)                                              | Cobo | -   | - | 4.5 | pF  |
| Noise Figure<br>(IC = -0.2 mA, VCE = -5.0 V, RS = 2.0 k $\Omega$<br>f = 1.0 kHz, BW = 200 Hz) | NF   | -   | - | 10  | dB  |

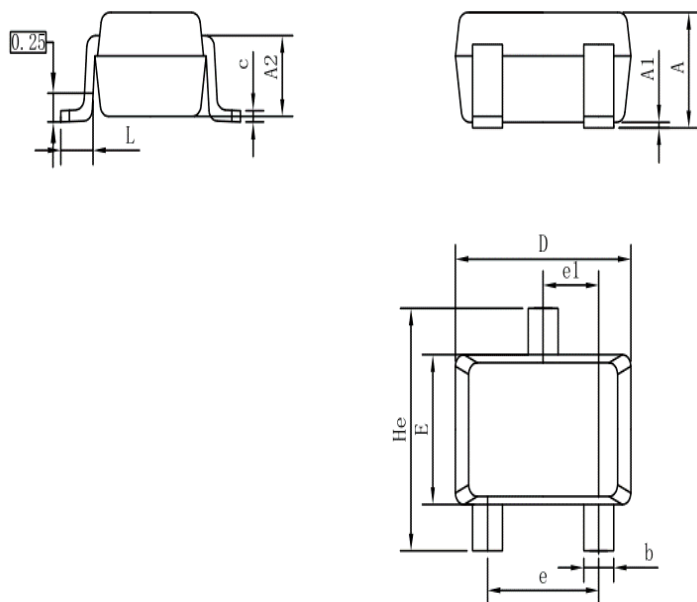
## 6.ELECTRICAL CHARACTERISTICS CURVES



## 6.ELECTRICAL CHARACTERISTICS CURVES(Con.)

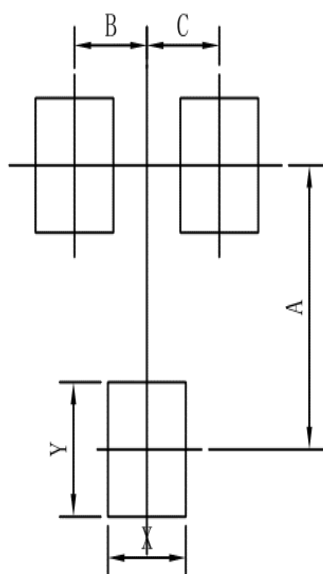


## 7.OUTLINE AND DIMENSIONS



| SC70                |          |      |      |
|---------------------|----------|------|------|
| DIM                 | MIN      | NOR  | MAX  |
| A                   | 0.80     | 0.95 | 1.00 |
| A1                  | 0.00     | 0.05 | 0.10 |
| A2                  | 0.7 REF  |      |      |
| b                   | 0.30     | 0.35 | 0.40 |
| c                   | 0.10     | 0.15 | 0.25 |
| D                   | 1.80     | 2.05 | 2.20 |
| E                   | 1.15     | 1.30 | 1.35 |
| e                   | 1.20     | 1.30 | 1.40 |
| e1                  | 0.65 BSC |      |      |
| L                   | 0.20     | 0.35 | 0.56 |
| He                  | 2.00     | 2.10 | 2.40 |
| ALL Dimension in mm |          |      |      |

## 8.SOLDERING FOOTPRINT



| SC70 |      |
|------|------|
| DIM  | (mm) |
| A    | 1.90 |
| B    | 0.65 |
| C    | 0.65 |
| X    | 0.70 |
| Y    | 0.90 |

## **DISCLAIMER**

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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