

## General Purpose Transistors

### NPN Silicon

#### FEATURE

- High current capacity in compact package.  
 $I_c = 1.5A$ .
- Epitaxial planar type.
- NPN complement: LH8050
- Pb-Free Package is available.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

#### DEVICE MARKING AND ORDERING INFORMATION

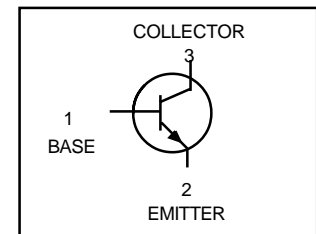
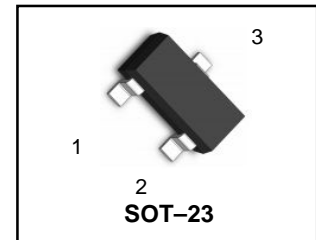
| Device          | Marking | Shipping        |
|-----------------|---------|-----------------|
| (S-)LH8050PLT1G | KEO     | 3000/Tape&Reel  |
| (S-)LH8050PLT3G | KEO     | 10000/Tape&Reel |
| (S-)LH8050QLT1G | KEY     | 3000/Tape&Reel  |
| (S-)LH8050QLT3G | KEY     | 10000/Tape&Reel |

#### MAXIMUM RATINGS

| Rating                       | Symbol    | Max  | Unit |
|------------------------------|-----------|------|------|
| Collector-Emitter Voltage    | $V_{CEO}$ | 50   | V    |
| Collector-Base Voltage       | $V_{CBO}$ | 50   | V    |
| Emitter-Base Voltage         | $V_{EBO}$ | 6    | V    |
| Collector Current-continuoun | $I_c$     | 1500 | mAdc |

#### THERMAL CHARACTERISTICS

| Characteristic                   | Symbol         | Max         | Unit |
|----------------------------------|----------------|-------------|------|
| Total Dissipation Power          | $P_D$          | 225         | mW   |
| Junction and Storage Temperature | $T_j, T_{stg}$ | -55 to +150 | °C   |



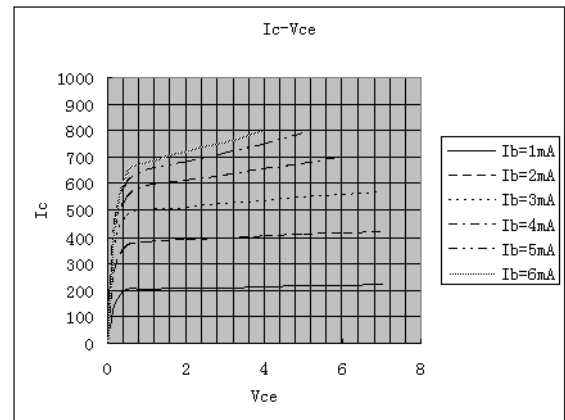
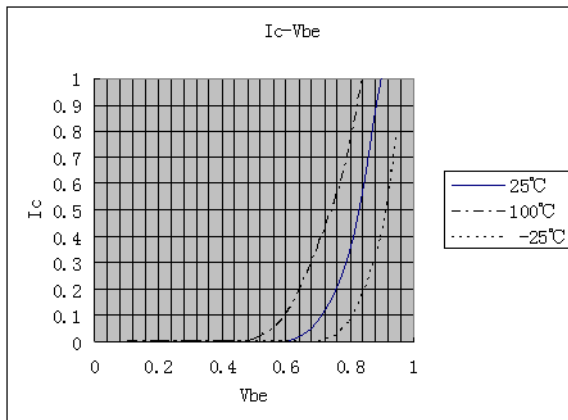
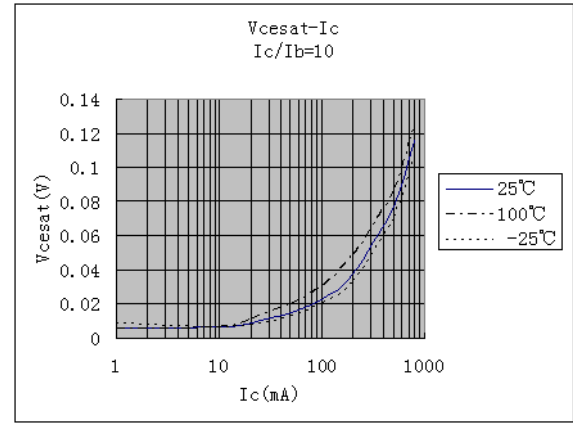
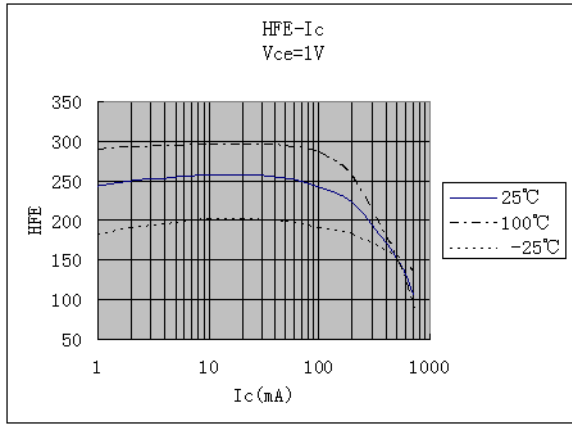
**ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)**

| Characteristic  | Symbol               | Min | Typ  | Max | Unit |
|---|----------------------|-----|------|-----|------|
| Collector-Emitter Breakdown Voltage<br>(I <sub>C</sub> =2.0mA, I <sub>B</sub> =0)     | V <sub>(BR)CEO</sub> | 50  | -    | -   | V    |
| Emitter-Base Breakdown Voltage<br>(I <sub>E</sub> =100μA, I <sub>C</sub> =0)          | V <sub>(BR)EBO</sub> | 6   | -    | -   | V    |
| Collector-Base Breakdown Voltage<br>(I <sub>C</sub> =100μA, I <sub>E</sub> =0)        | V <sub>(BR)CBO</sub> | 50  | -    | -   | V    |
| Collector Cutoff Current (V <sub>CB</sub> =35V, I <sub>E</sub> =0)                    | I <sub>CBO</sub>     | -   | -    | 100 | nA   |
| Emitter Cutoff Current (V <sub>EB</sub> =6V, I <sub>C</sub> =0)                       | I <sub>EBO</sub>     | -   | -    | 100 | nA   |
| Base-Emitter Voltage (V <sub>CE</sub> =1V, I <sub>C</sub> =10mA)                      | V <sub>BE</sub>      | -   | 0.66 | 1   | V    |
| DC Current Gain<br>I <sub>C</sub> =100mA, V <sub>CE</sub> =1V                         | h <sub>FE</sub> *    | 100 | -    | 320 |      |
| DC Current Gain<br>I <sub>C</sub> =800mA, V <sub>CE</sub> =1V                         | h <sub>FE</sub>      | 40  | -    | -   |      |
| Collector-Emitter Saturation Voltage<br>(I <sub>C</sub> =800mA, I <sub>B</sub> =80mA) | V <sub>CE(S)</sub>   | -   | -    | 0.5 | V    |

**NOTE :**

| *               | P       | Q       |
|-----------------|---------|---------|
| h <sub>FE</sub> | 100~200 | 160~320 |

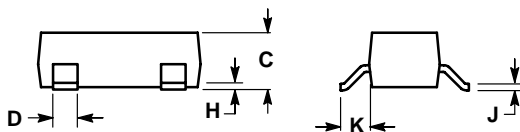
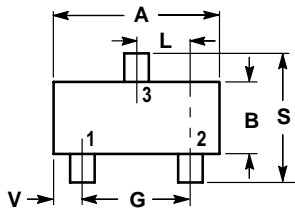
### Electrical Characteristic Curves ( $T_A=25^\circ\text{C}$ )



## SOT-23

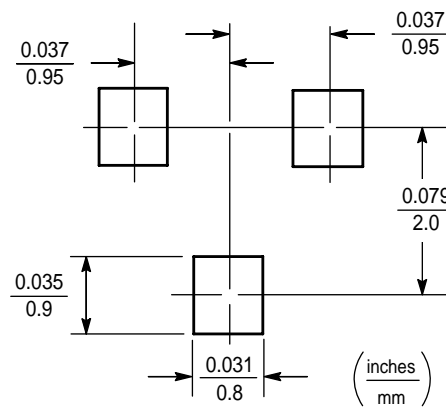
### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



| DIM | INCHES |        | MILLIMETERS |       |
|-----|--------|--------|-------------|-------|
|     | MIN    | MAX    | MIN         | MAX   |
| A   | 0.1102 | 0.1197 | 2.80        | 3.04  |
| B   | 0.0472 | 0.0551 | 1.20        | 1.40  |
| C   | 0.0350 | 0.0440 | 0.89        | 1.11  |
| D   | 0.0150 | 0.0200 | 0.37        | 0.50  |
| G   | 0.0701 | 0.0807 | 1.78        | 2.04  |
| H   | 0.0005 | 0.0040 | 0.013       | 0.100 |
| J   | 0.0034 | 0.0070 | 0.085       | 0.177 |
| K   | 0.0140 | 0.0285 | 0.35        | 0.69  |
| L   | 0.0350 | 0.0401 | 0.89        | 1.02  |
| S   | 0.0830 | 0.1039 | 2.10        | 2.64  |
| V   | 0.0177 | 0.0236 | 0.45        | 0.60  |

- PIN 1. BASE  
2. EMITTER  
3. COLLECTOR



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