

## 2SA1552 / 2SC4027

Continued from preceding page.

| Parameter             | Symbol           | Conditions           | Ratings     | Unit |
|-----------------------|------------------|----------------------|-------------|------|
| Collector Dissipation | PC               |                      | 1           | W    |
|                       |                  | T <sub>c</sub> =25°C | 15          | W    |
| Junction Temperature  | T <sub>j</sub>   |                      | 150         | °C   |
| Storage Temperature   | T <sub>stg</sub> |                      | -55 to +150 | °C   |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

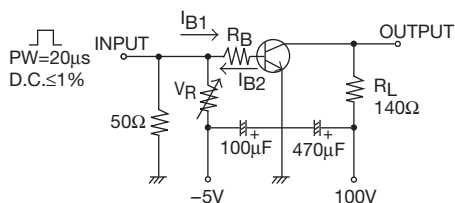
### Electrical Characteristics at T<sub>a</sub>=25°C

| Parameter                               | Symbol               | Conditions  | Ratings |            |            | Unit |
|---|----------------------|---|---------|------------|------------|------|
|   |                      |   | min     | typ        | max        |      |
| Collector Cutoff Current                | I <sub>CBO</sub>     | V <sub>CB</sub> =(-)120V, I <sub>E</sub> =0A      |         |            | (-)1.0     | μA   |
| Emitter Cutoff Current                  | I <sub>EBO</sub>     | V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0A        |         |            | (-)1.0     | μA   |
| DC Current Gain                         | h <sub>FE1</sub>     | V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)100mA  | 140*    |            | 400*       |      |
|   | h <sub>FE2</sub>     | V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)10mA   | 80      |            |            |      |
| Gain-Bandwidth Product                  | f <sub>T</sub>       | V <sub>CE</sub> =(-)10V, I <sub>C</sub> =(-)50mA  |         | 120        |            | MHz  |
| Output Capacitance                      | C <sub>ob</sub>      | V <sub>CB</sub> =(-)10V, f=1MHz                   |         | (22)12     |            | pF   |
| Collector to Emitter Saturation Voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =(-)500mA, I <sub>B</sub> =(-)50mA |         | (-0.2)0.13 | (-0.5)0.45 | V    |
| Base to Emitter Saturation Voltage      | V <sub>BE(sat)</sub> | I <sub>C</sub> =(-)500mA, I <sub>B</sub> =(-)50mA |         | (-)0.85    | (-)1.2     | V    |
| Collector to Base Breakdown Voltage     | V(BR)CBO             | I <sub>C</sub> =(-)10μA, I <sub>E</sub> =0A       | (-)180  |            |            | V    |
| Collector to Emitter Breakdown Voltage  | V(BR)CEO             | I <sub>C</sub> =(-)1mA, R <sub>BE</sub> =∞        | (-)160  |            |            | V    |
| Emitter to Base Breakdown Voltage       | V(BR)EBO             | I <sub>E</sub> =(-)10μA, I <sub>C</sub> =0A       | (-)6    |            |            | V    |
| Turn-On Time                            | t <sub>on</sub>      | See specified Test Circuit.                       |         | 60         |            | ns   |
| Storage Time                            | t <sub>stg</sub>     |   |         | (0.7)1.2   |            | μs   |
| Fall Time                               | t <sub>f</sub>       |   |         | (50)80     |            | ns   |

\* : The 2SA1552 / 2SC4027 are classified by 100mA h<sub>FE</sub> as follows : (unit : μA)

| Rank            | S          | T          |
|-----------------|------------|------------|
| h <sub>FE</sub> | 140 to 280 | 200 to 400 |

### Switching Time Test Circuit

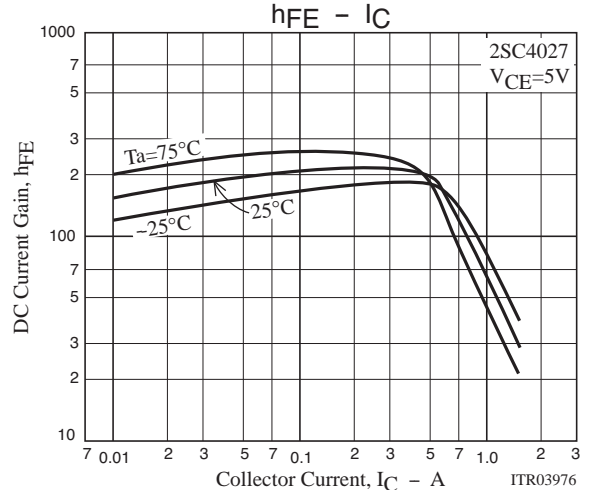
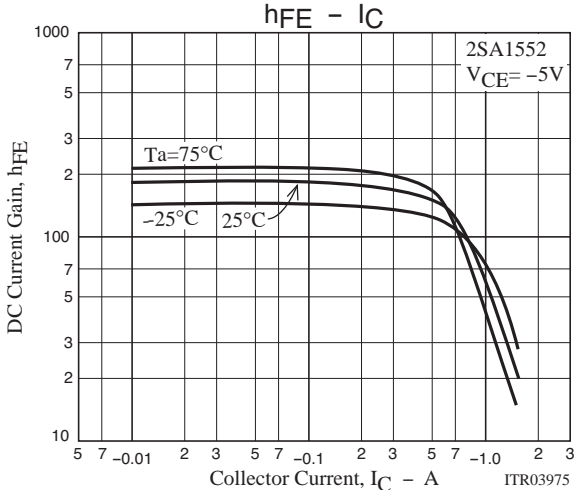
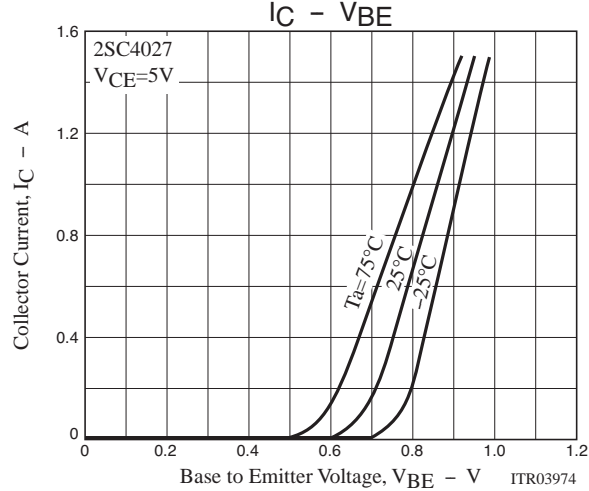
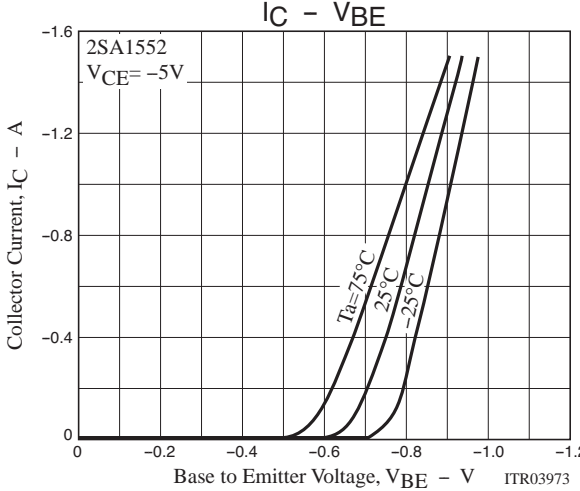
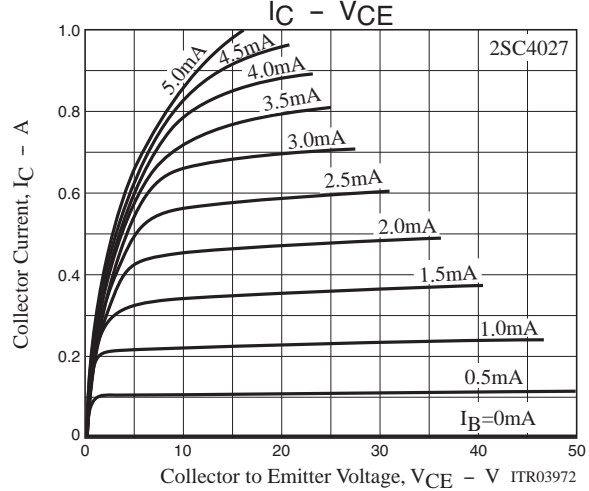
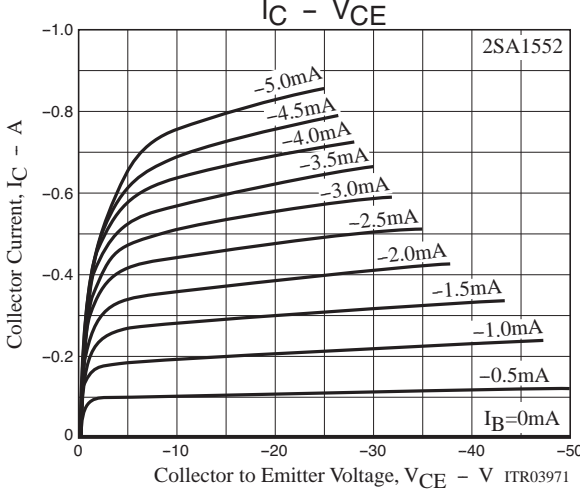
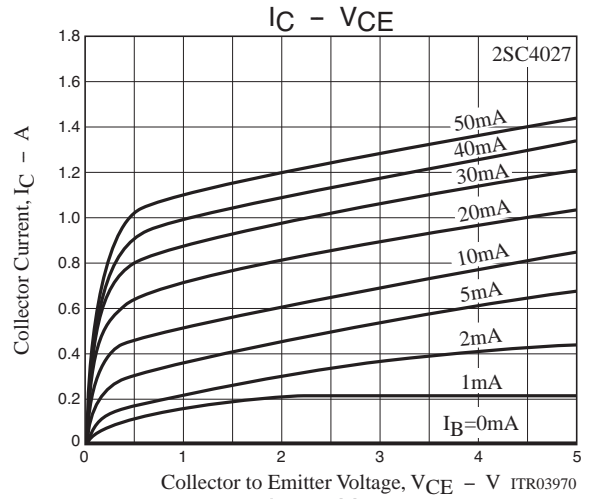
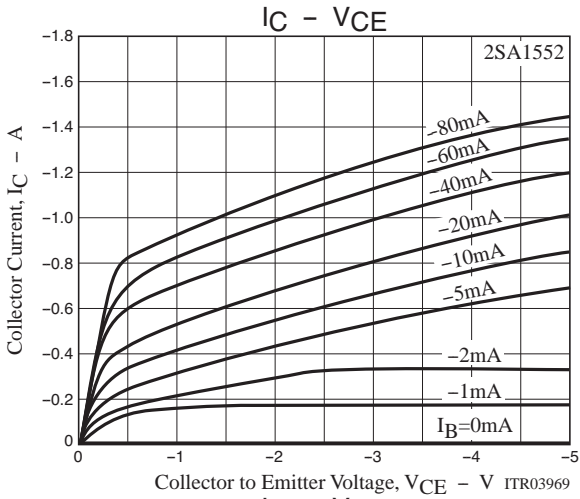


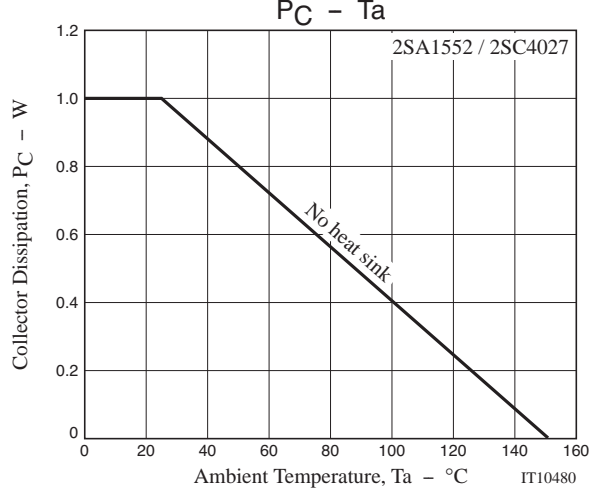
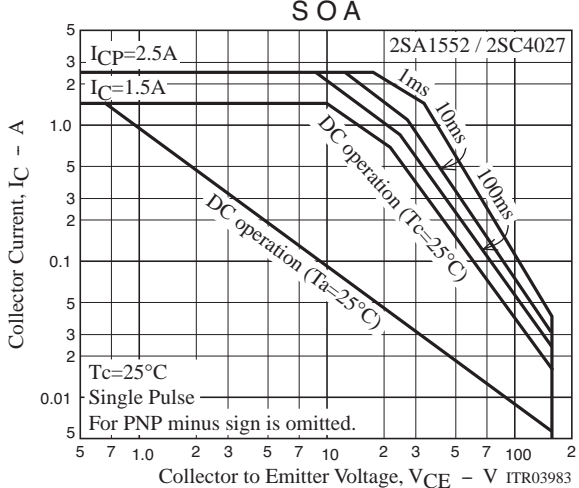
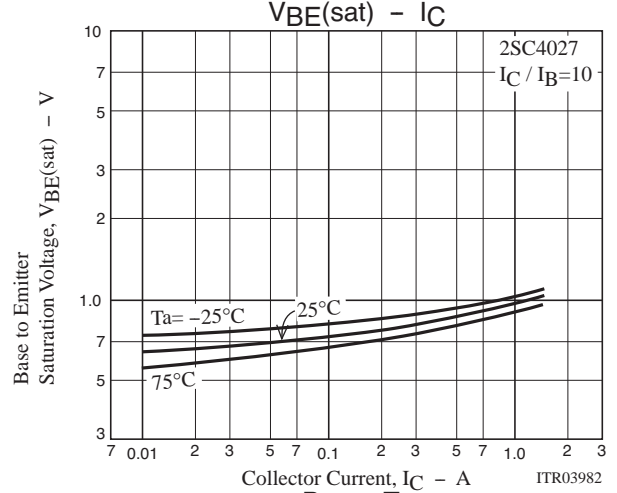
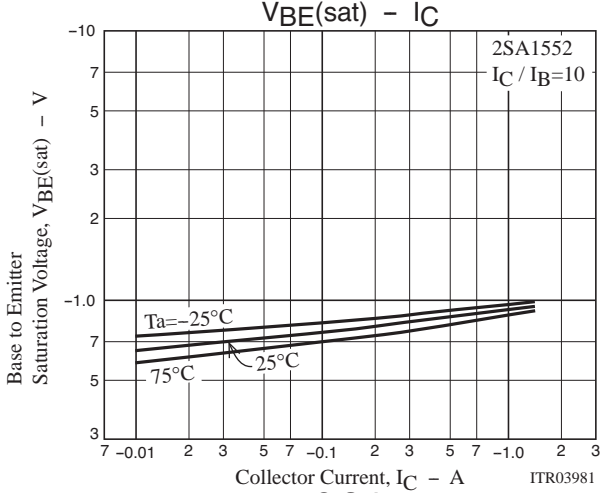
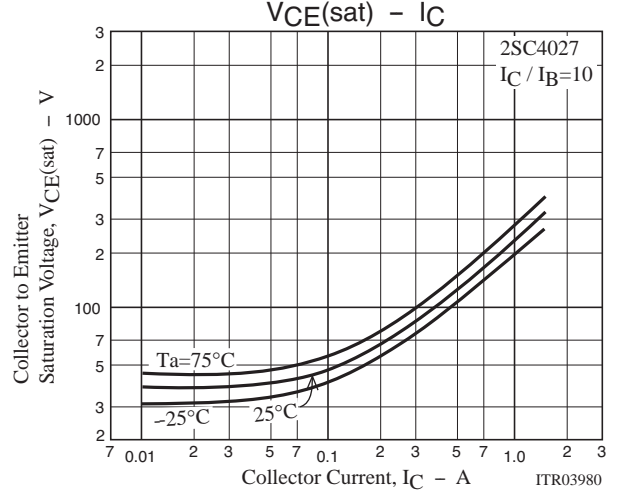
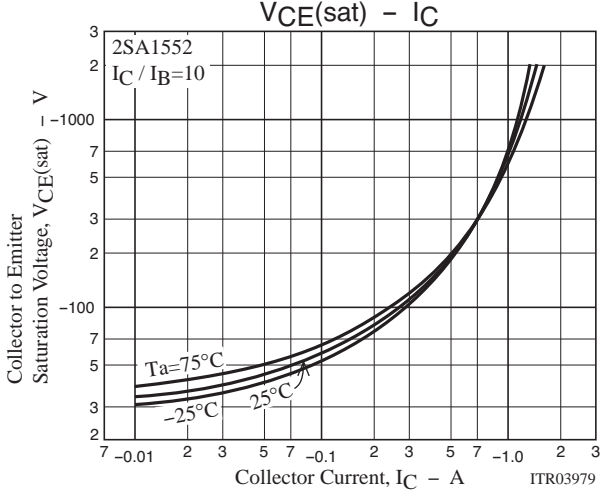
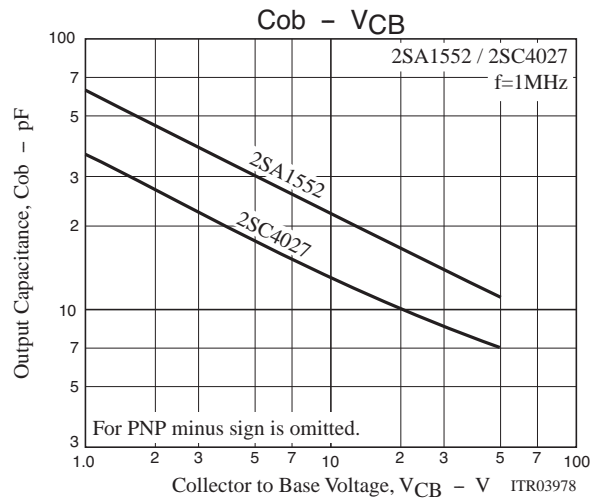
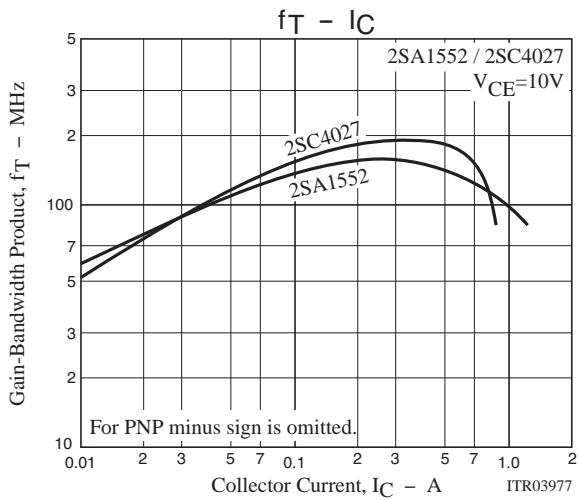
$$10I_{B1} = -10I_{B2} = I_C = 0.7A$$

For PNP, the polarity is reversed.

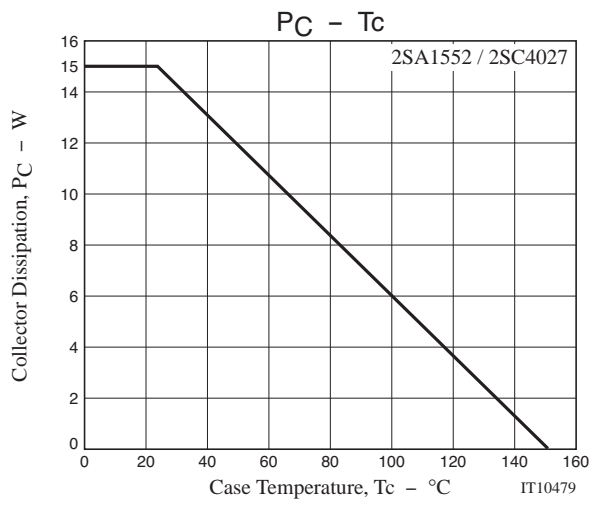
### Ordering Information

| Device        | Package | Shipping     | memo                     |
|---------------|---------|--------------|--------------------------|
| 2SA1552S-E    | TP      | 500pcs./bag  | Pb Free                  |
| 2SA1552S-H    | TP      | 500pcs./bag  | Pb Free and Halogen Free |
| 2SA1552T-E    | TP      | 500pcs./bag  | Pb Free                  |
| 2SA1552T-H    | TP      | 500pcs./bag  | Pb Free and Halogen Free |
| 2SC4027S-E    | TP      | 500pcs./bag  | Pb Free                  |
| 2SC4027S-H    | TP      | 500pcs./bag  | Pb Free and Halogen Free |
| 2SC4027T-E    | TP      | 500pcs./bag  | Pb Free                  |
| 2SC4027T-H    | TP      | 500pcs./bag  | Pb Free and Halogen Free |
| 2SA1552S-TL-E | TP-FA   | 700pcs./reel | Pb Free                  |
| 2SA1552S-TL-H | TP-FA   | 700pcs./reel | Pb Free and Halogen Free |
| 2SA1552T-TL-E | TP-FA   | 700pcs./reel | Pb Free                  |
| 2SA1552T-TL-H | TP-FA   | 700pcs./reel | Pb Free and Halogen Free |
| 2SC4027S-TL-E | TP-FA   | 700pcs./reel | Pb Free                  |
| 2SC4027S-TL-H | TP-FA   | 700pcs./reel | Pb Free and Halogen Free |
| 2SC4027T-TL-E | TP-FA   | 700pcs./reel | Pb Free                  |
| 2SC4027T-TL-H | TP-FA   | 700pcs./reel | Pb Free and Halogen Free |





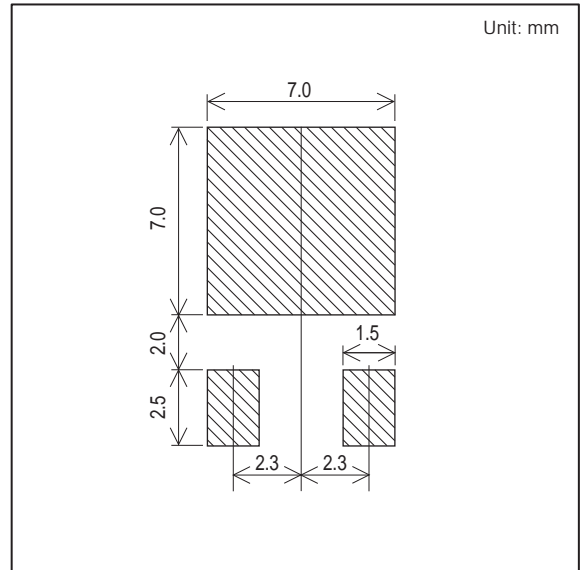
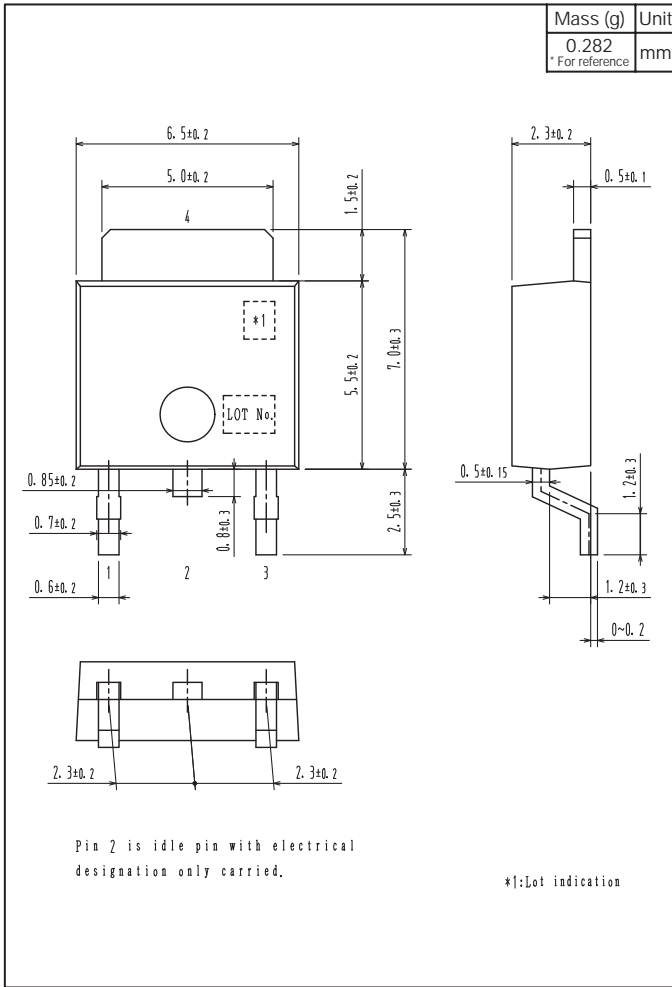
# 2SA1552 / 2SC4027



Outline Drawing

Land Pattern Example

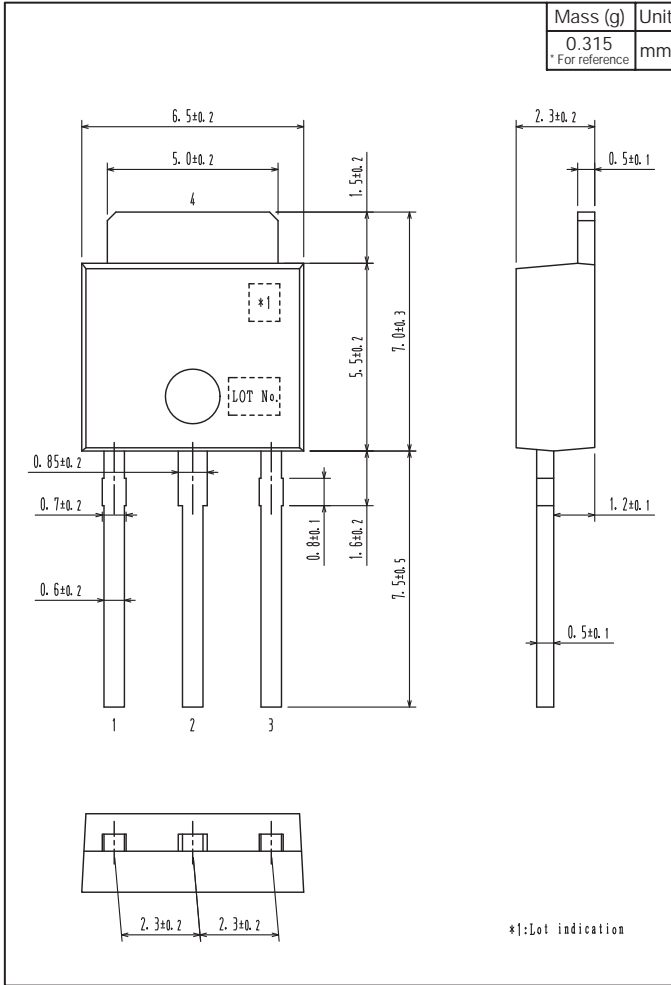
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Unit: mm

Outline Drawing

2SA1552S-E, 2SA1552S-H, 2SA1552T-E, 2SA1552T-H, 2SC4027S-E, 2SC4027S-H, 2SC4027T-E, 2SC4027T-H



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