

### / Descriptions

SOT-323                      PNP                      Silicon PNP Digital transistor in a SOT-323 Plastic Package.

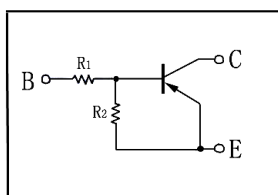
### / Features

With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process,HF Product.

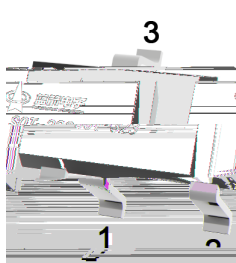
### / Applications

Switching, inverter circuit, interface circuit and driver circuit applications.

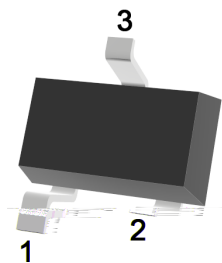
### / Equivalent Circuit



### / Pinning



PIN 1    Base



PIN 2    Emitter

PIN 3    Collector

### / hFE Classifications & Marking

|         |     |
|---------|-----|
| Marking | H33 |
|---------|-----|

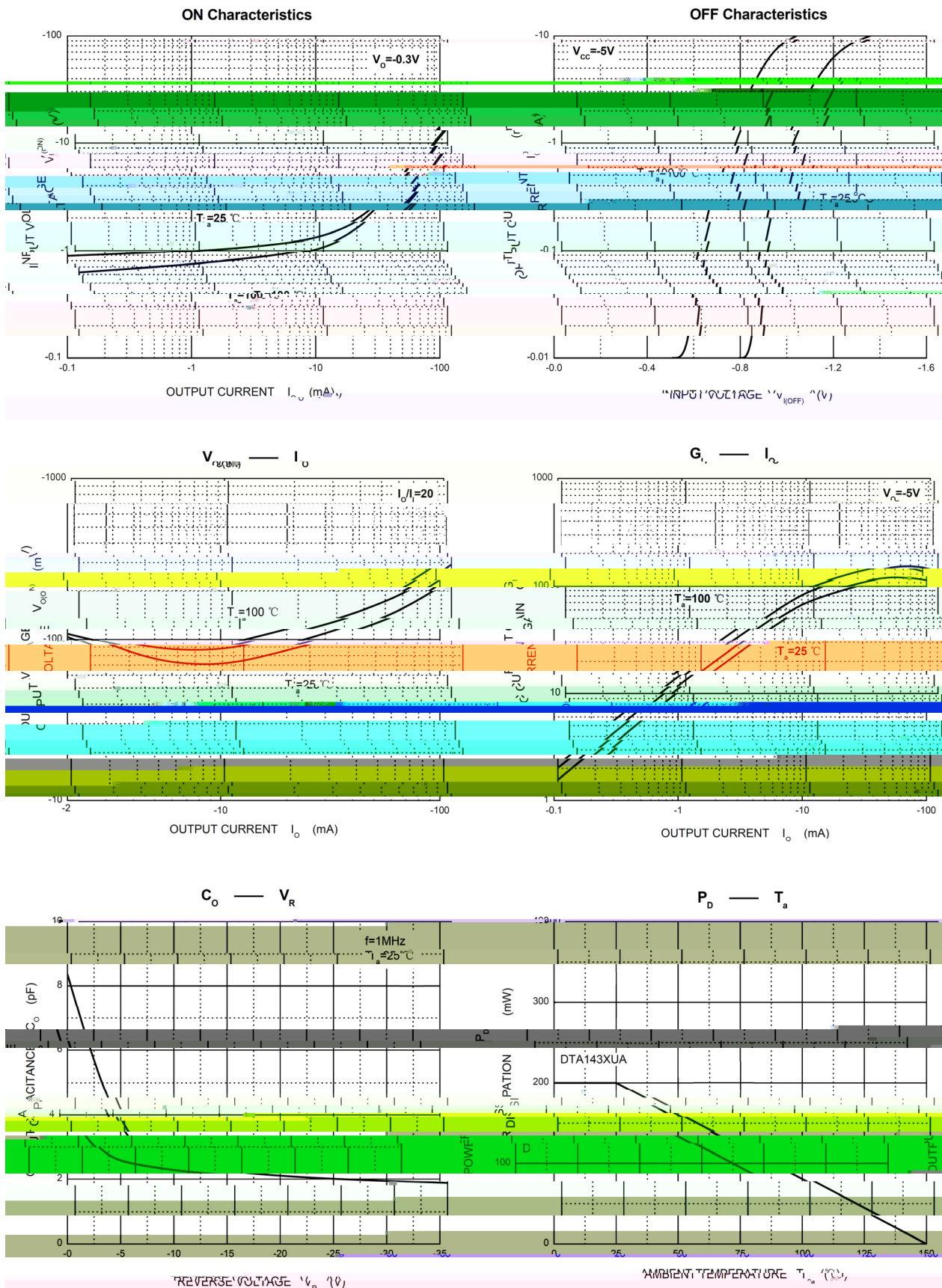
**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                                        | Symbol                            | Rating  | Unit |
|--------------------------------------------------|-----------------------------------|---------|------|
| Supply Voltage                                   | V <sub>CC</sub>                   | -50     | V    |
| Input Voltage                                    | V <sub>IN</sub>                   | -20     | V    |
|                                                  |                                   | 7.0     | V    |
| Output Current                                   | I <sub>O</sub>                    | -100    | mA   |
| Power Dissipation                                | P <sub>D</sub>                    | 200     | mW   |
| Operation Junction and Storage Temperature Range | T <sub>J</sub> , T <sub>stg</sub> | -55 150 |      |

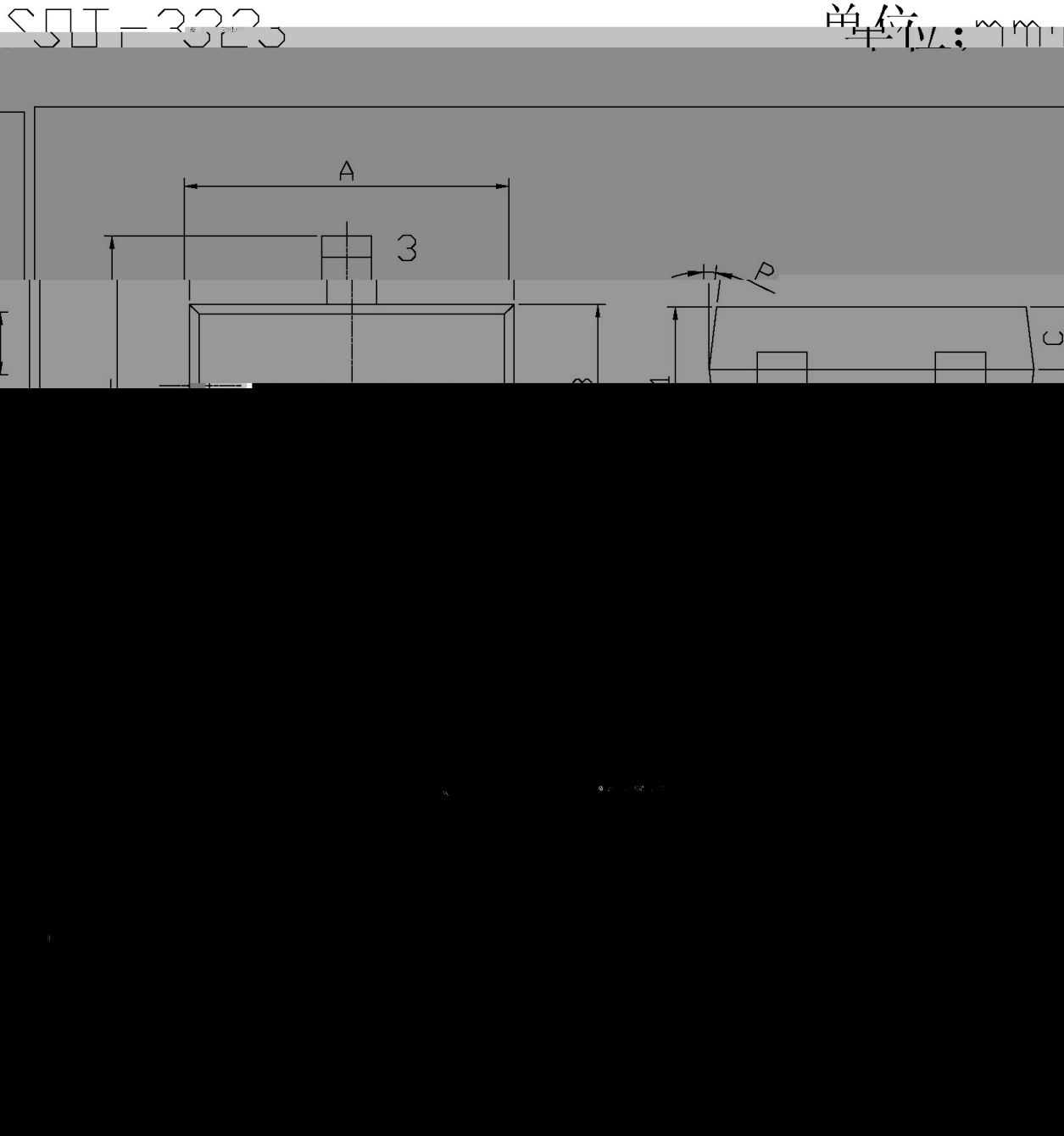
**/ Electrical Characteristics(Ta=25 )**

| Parameter            | Symbol                         | Test Conditions                                         | Min  | Typ  | Max  | Unit |
|----------------------|--------------------------------|---------------------------------------------------------|------|------|------|------|
| Input Voltage        | V <sub>I(off)</sub>            | V <sub>CC</sub> =-5.0V I <sub>O</sub> =-100μA           | -0.3 |      |      | V    |
|                      | V <sub>I(on)</sub>             | V <sub>O</sub> =-0.3V I <sub>O</sub> =-20mA             |      |      | -2.5 | V    |
| Output Voltage       | V <sub>O(on)</sub>             | I <sub>O</sub> =-10mA I <sub>I</sub> =-0.5mA            |      | -0.1 | -0.3 | V    |
| Input Current        | I <sub>I</sub>                 | V <sub>I</sub> =-5.0V                                   |      |      | -1.8 | mA   |
| Output current       | I <sub>O(off)</sub>            | V <sub>CC</sub> =-50V V <sub>I</sub> =0V                |      |      | -0.5 | μA   |
| DC Current Gain      | G <sub>I</sub>                 | V <sub>O</sub> =-5.0V I <sub>O</sub> =-10mA             | 30   |      |      |      |
| Transition Frequency | f <sub>T</sub>                 | V <sub>O</sub> =-10V I <sub>O</sub> =-5.0mA<br>f=100MHz |      | 250  |      | MHz  |
| Resistance1          | R <sub>1</sub>                 |                                                         | 3.29 | 4.7  | 6.11 | KΩ   |
| Resistance Ratio     | R <sub>2</sub> /R <sub>1</sub> |                                                         | 1.7  | 2.1  | 2.6  |      |

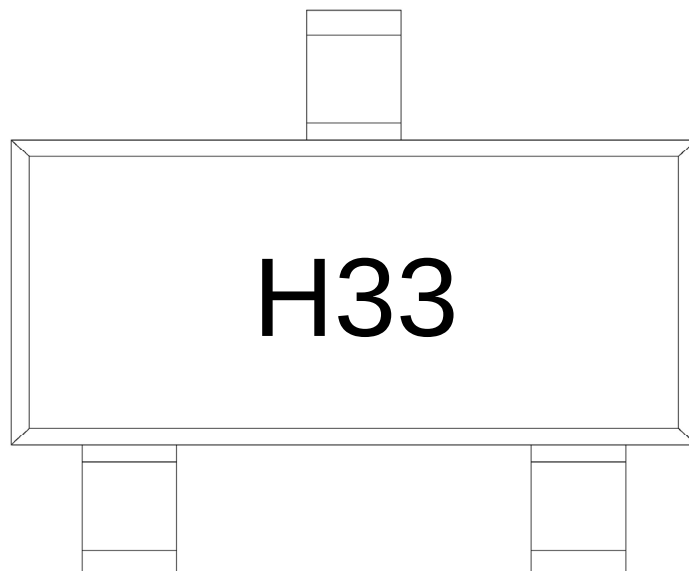
# Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



H

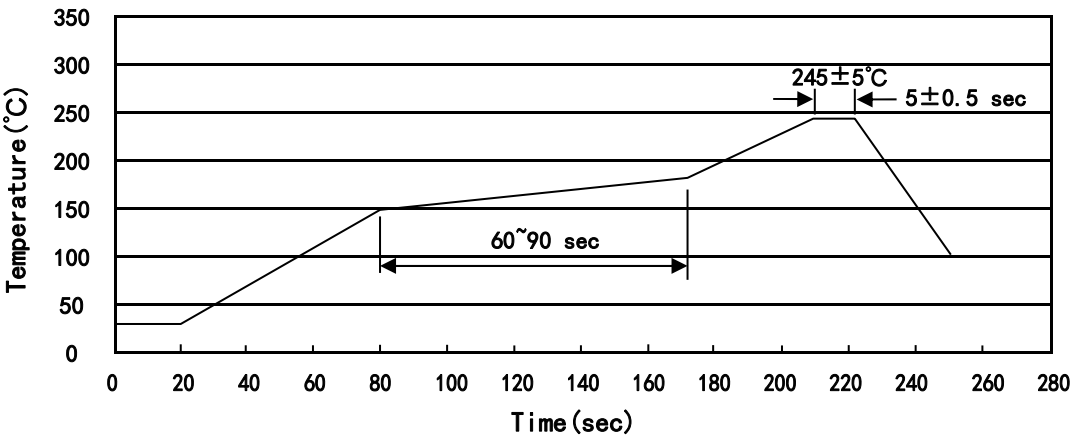
33

Note:

H            Company Code

33           Product Type Code

( ) /



Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245±5

5±0.5sec;

2.Peak Temp.:245±5 , Duration:5±0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5                      10±1 sec.                      Temp:260±5                      Time:10±1 sec

/ Packaging SPEC.

/ REEL

| Package Type | Units           |                      |                      |                            |                      | Dimension (unit mm <sup>3</sup> ) |             |             |
|--------------|-----------------|----------------------|----------------------|----------------------------|----------------------|-----------------------------------|-------------|-------------|
|              | Units/Reel<br>/ | Reels/Inner Box<br>/ | Units/Inner Box<br>/ | Inner Boxes/Outer Box<br>/ | Units/Outer Box<br>/ | Reel                              | Inner Box   | Outer Box   |
| SOT-323      | 3,000           | 10                   | 30,000               | 6                          | 180,000              | 7 ×8                              | 180×120×180 | 390×385×205 |

/ Notices