

**/ Descriptions**

SOT-23

NPN

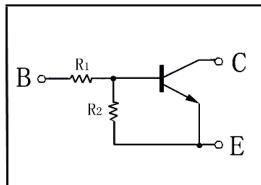
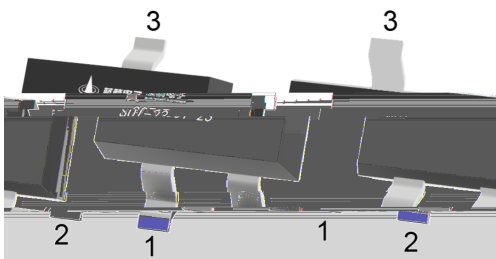
Silicon NPN Digital transistor in a SOT-23 Plastic Package.

**/ 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

**/ h<sub>FE</sub> Classifications & Marking**

|         |     |
|---------|-----|
| Marking | H43 |
|---------|-----|

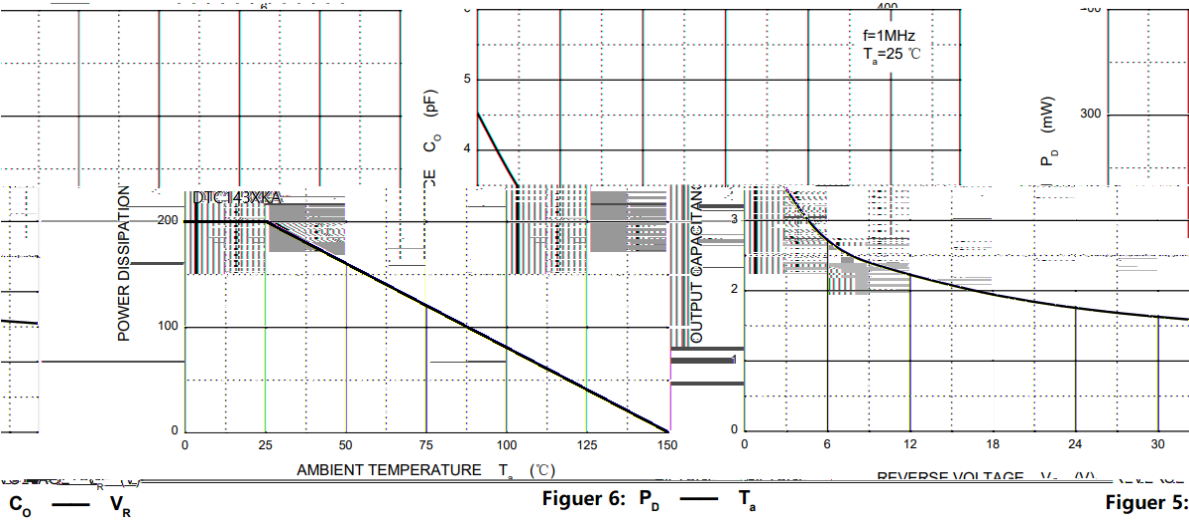
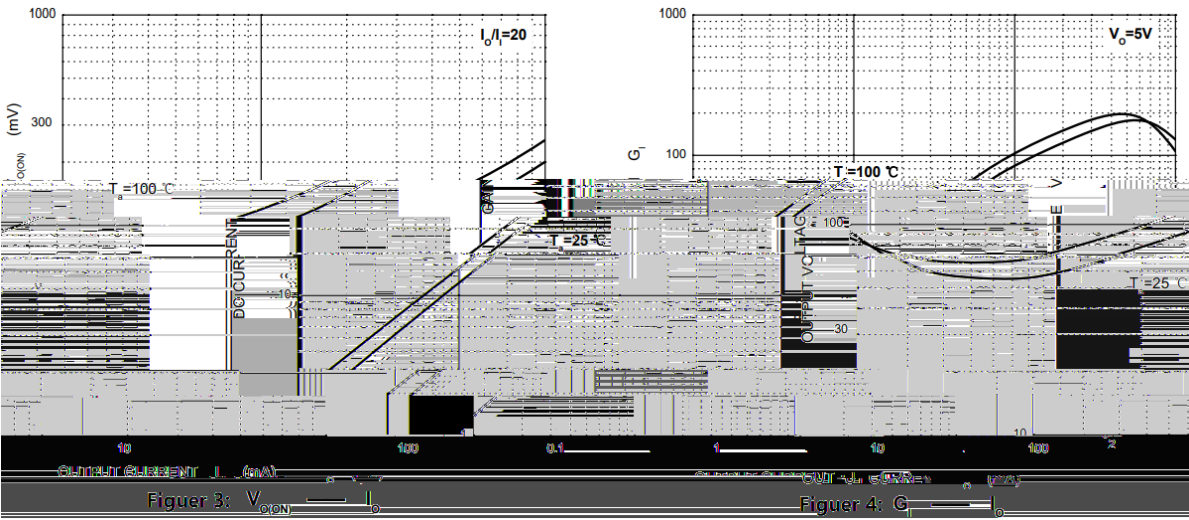
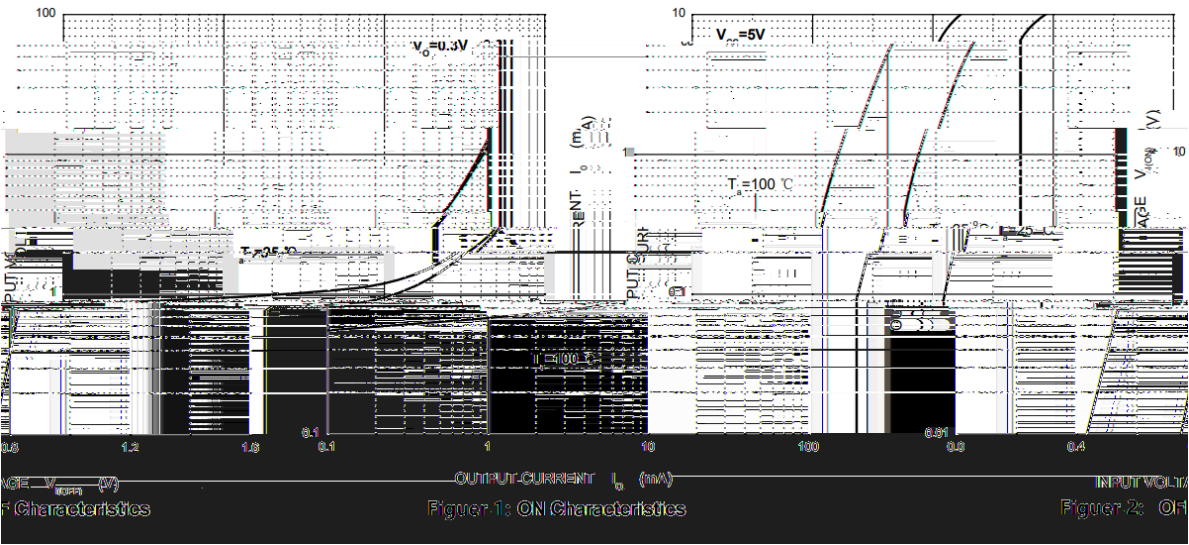
/ Absolute Maximum Ratings( $T_a=25$  )

| Parameter                 | Symbol    | Rating  | Unit |
|---------------------------|-----------|---------|------|
| Output Voltage            | $V_{CC}$  | 50      | V    |
| Input Voltage             | $V_{In}$  | 20      | V    |
|                           |           | -7.0    | V    |
| Output Current            | $I_o$     | 100     | mA   |
| Power Dissipation         | $P_C$     | 200     | mW   |
| Junction Temperature      | $T_j$     | 150     |      |
| Storage Temperature Range | $T_{stg}$ | -55 150 |      |

/ Electrical Characteristics( $T_a=25$  )

| Parameter              | Symbol       | Test Conditions                        | Min  | Typ | Max  | Unit       |
|------------------------|--------------|----------------------------------------|------|-----|------|------------|
| Input Voltage          | $V_{I(off)}$ | $V_{CC}=5.0V$ $I_o=100\mu A$           | 0.3  |     |      | V          |
|                        | $V_{I(on)}$  | $V_o=0.3V$ $I_o=20mA$                  |      |     | 2.5  | V          |
| Output Voltage         | $V_{O(on)}$  | $I_o=10mA$ $I_i=0.5mA$                 |      | 0.1 | 0.3  | V          |
| Input Current          | $I_i$        | $V_i=5.0V$                             |      |     | 1.8  | mA         |
| Output Cut-off Current | $I_{O(off)}$ | $V_{CC}=50V$ $V_i=0V$                  |      |     | 0.5  | $\mu A$    |
| DC Current Gain        | $G_I$        | $V_o=5.0V$ $I_o=10mA$                  | 30   |     |      |            |
| Transition Frequency   | $f_T$        | $V_{CE}=10V$ $I_C=5.0mA$<br>$f=100MHz$ |      | 250 |      | MHz        |
| Resistance1            | $R_1$        |                                        | 3.29 | 4.7 | 6.11 | K $\Omega$ |
| Resistance Ratio       | $R_2/R_1$    |                                        | 1.7  | 2.1 | 2.6  |            |

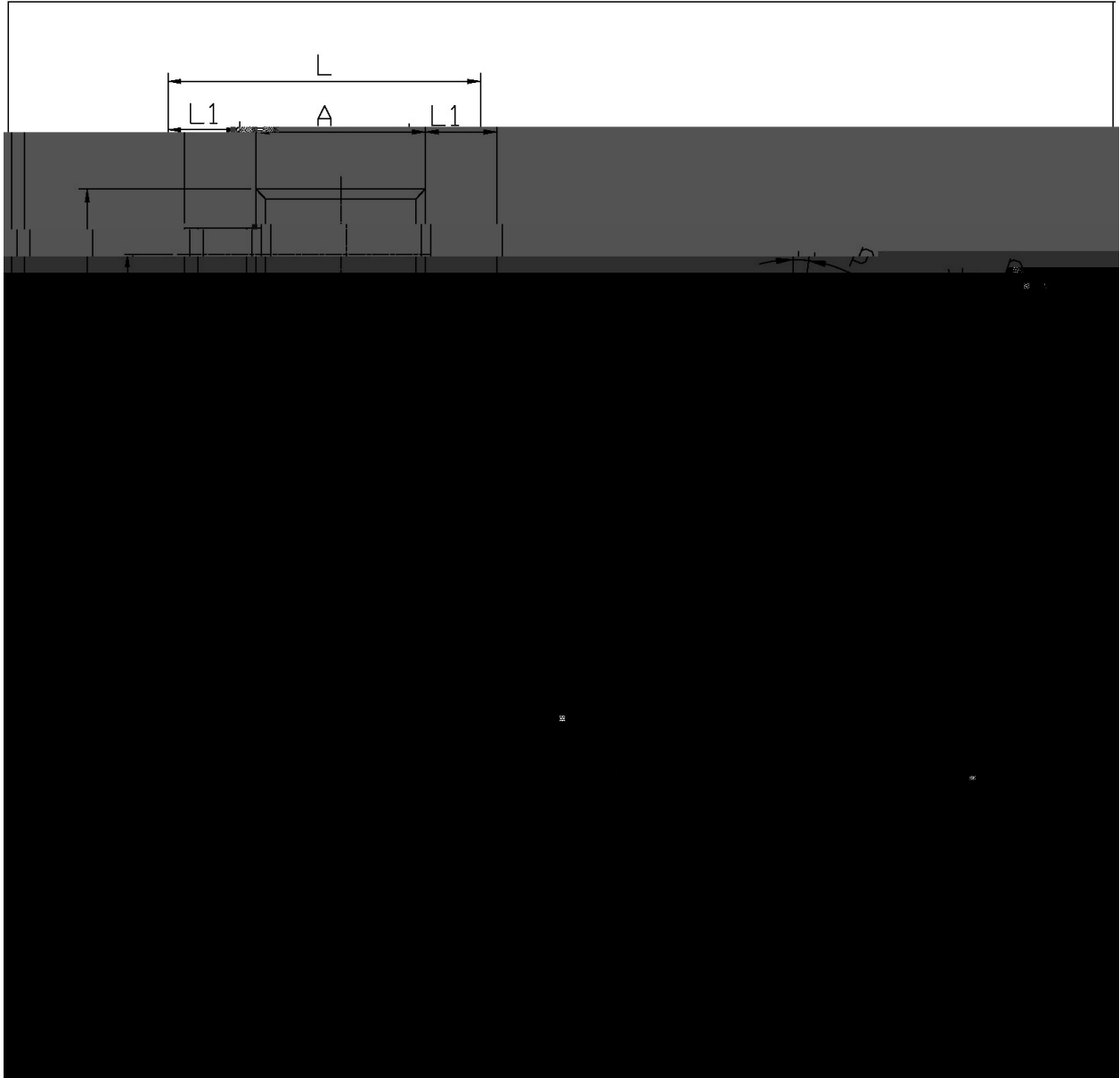
/ Electrical Characteristic Curve



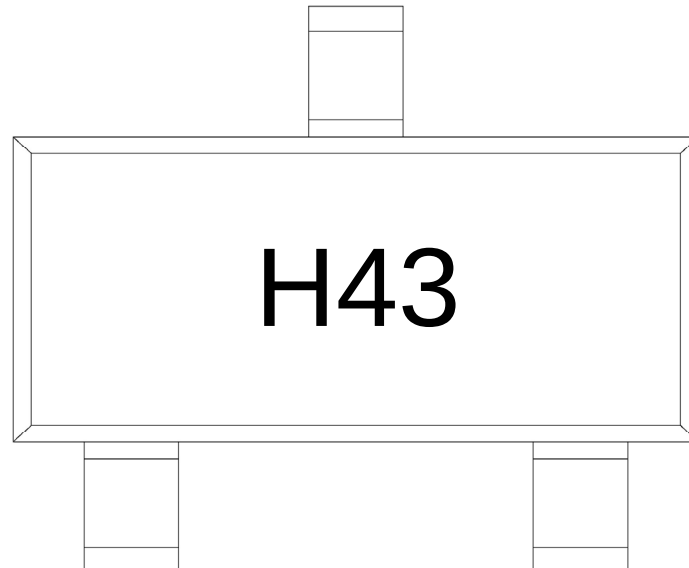
/ Package Dimensions

SOT-23

单位: mm



**/ Marking Instructions**



H

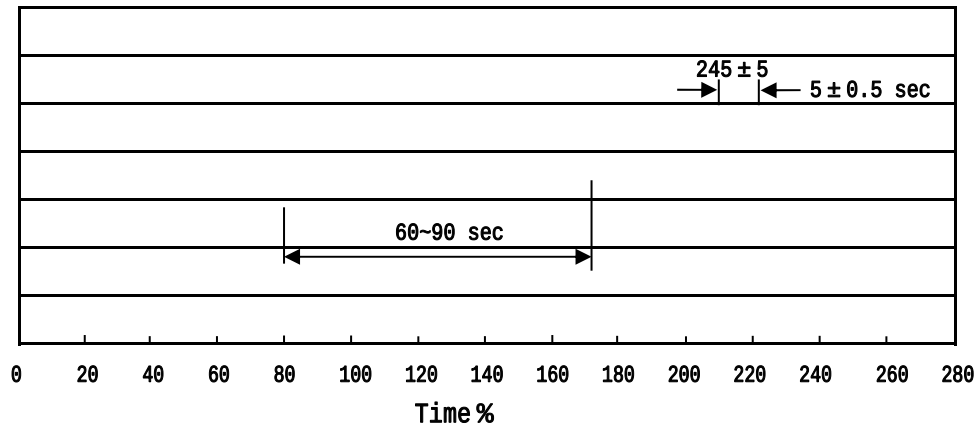
43

Note:

H            Company Code

43          Product Type Code

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



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 | Reels/Inner Box | Units/Inner Box | Inner Boxes/Outer Box | Units/Outer Box | Reel                              | Inner Box   | Outer Box   |
| SOT-23       | 3,000      | 10              | 30,000          | 6                     | 180,000         | 7 ×8                              | 180×120×180 | 390×385×205 |

/ Notices