

## / Descriptions

Silicon NPN transistor in a TO-3P Plastic Package.

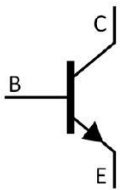
## / Features

High voltage.

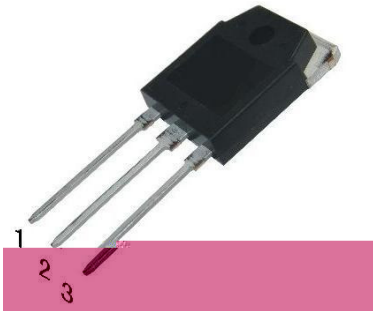
## / Applications

Humidifier, DC-DC converter, and general purpose.

## / Equivalent Circuit



## / Pinning



PIN1 Base      PIN 2 Collector      PIN 3 Emitter

## / $h_{FE}$ Classifications & Marking

See Marking Instructions.

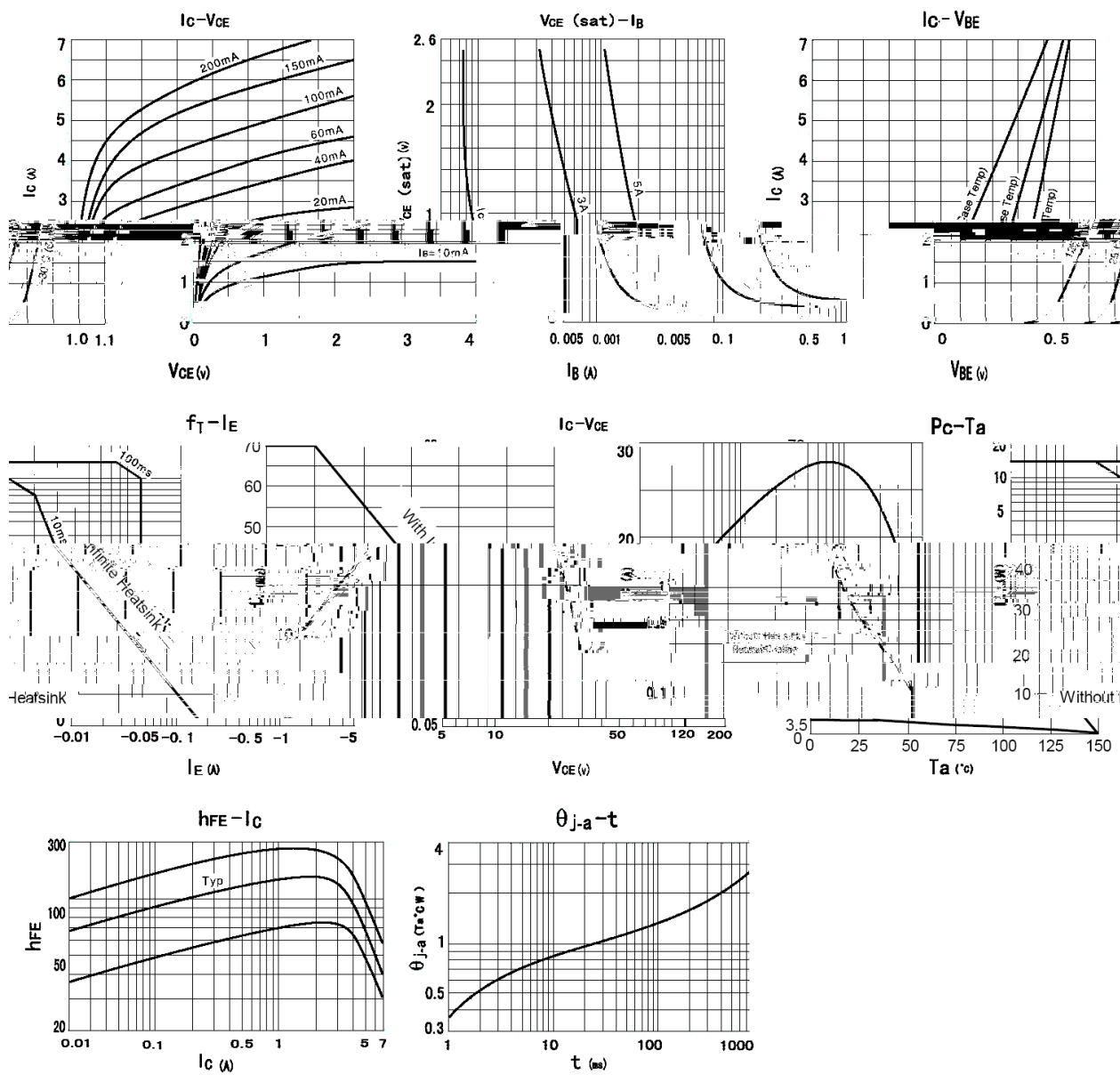
**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                      | Symbol          | Rating  | Unit |
|--------------------------------|-----------------|---------|------|
| Collector to Base Voltage      | $V_{CBO}$       | 200     | V    |
| Collector to Emitter Voltage   | $V_{CEO}$       | 120     | V    |
| Emitter to Base Voltage        | $V_{EBO}$       | 8.0     | V    |
| Collector Current - Continuous | $I_C$           | 7.0     | A    |
| Base Current                   | $I_B$           | 3.0     | A    |
| Collector Power Dissipation    | $P_C (T_C=25 )$ | 70      | W    |
| Junction Temperature           | $T_j$           | 150     |      |
| Storage Temperature Range      | $T_{stg}$       | -55~150 |      |

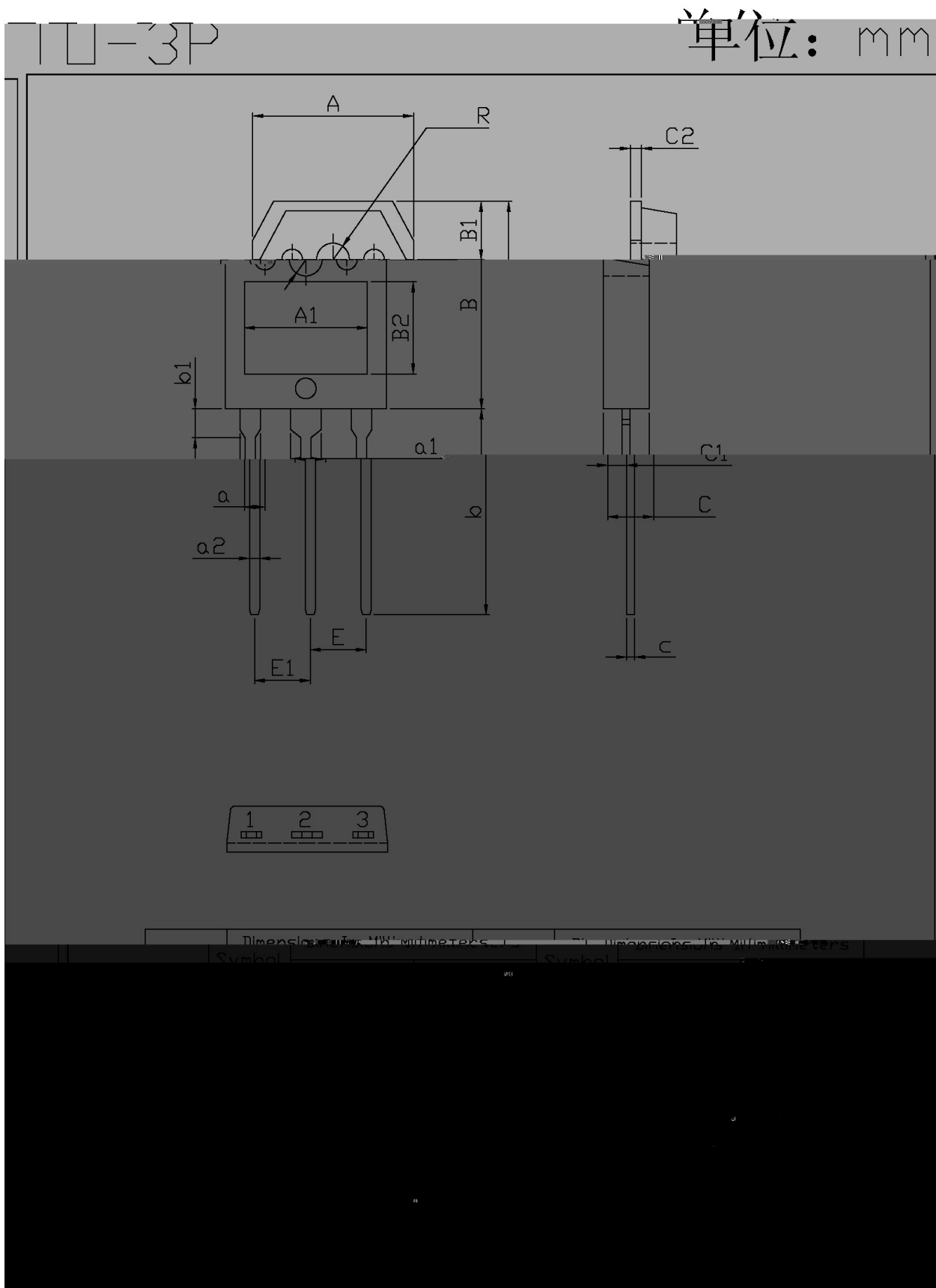
**/ Electrical Characteristics(Ta=25 )**

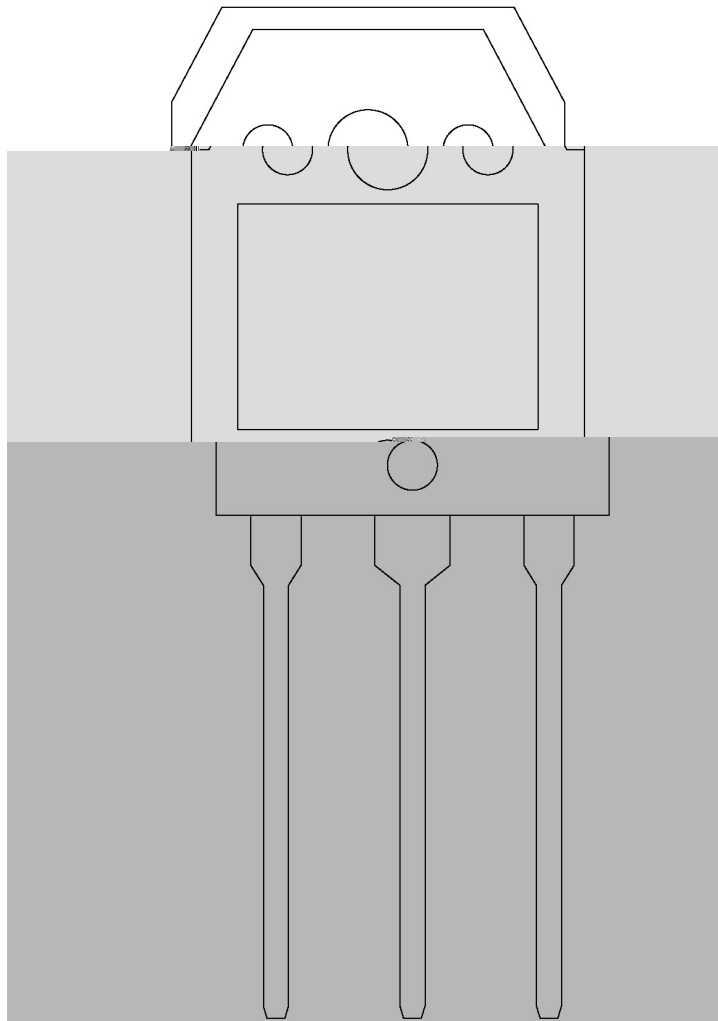
| Parameter                               | Symbol        | Test Conditions          | Min | Typ | Max | Unit    |
|-----------------------------------------|---------------|--------------------------|-----|-----|-----|---------|
| Collector to Emitter Breakdown Voltage  | $V_{CEO}$     | $I_C=50mA$ $I_E=0$       | 120 |     |     | V       |
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB}=200V$ $I_E=0$    |     |     | 100 | $\mu A$ |
| Emitter Cut-Off Current                 | $I_{EBO}$     | $V_{EB}=8.0V$ $I_E=0$    |     |     | 100 | $\mu A$ |
| DC Current Gain                         | $h_{FE}$      | $V_{CE}=4.0V$ $I_C=3.0A$ | 70  |     | 220 |         |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=3.0A$ $I_B=0.3A$    |     |     | 0.5 | V       |
| Base to Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=3.0A$ $I_B=0.3A$    |     |     | 1.2 | V       |
| Transition Frequency                    | $f_T$         | $V_{CE}=12V$ $I_E=-0.5A$ |     | 30  |     | MHz     |
| Collector Output Capacitance            | $C_{ob}$      | $f=1.0MHz$ $V_{CB}=10V$  |     | 110 |     | pF      |

/ Electrical Characteristic Curve

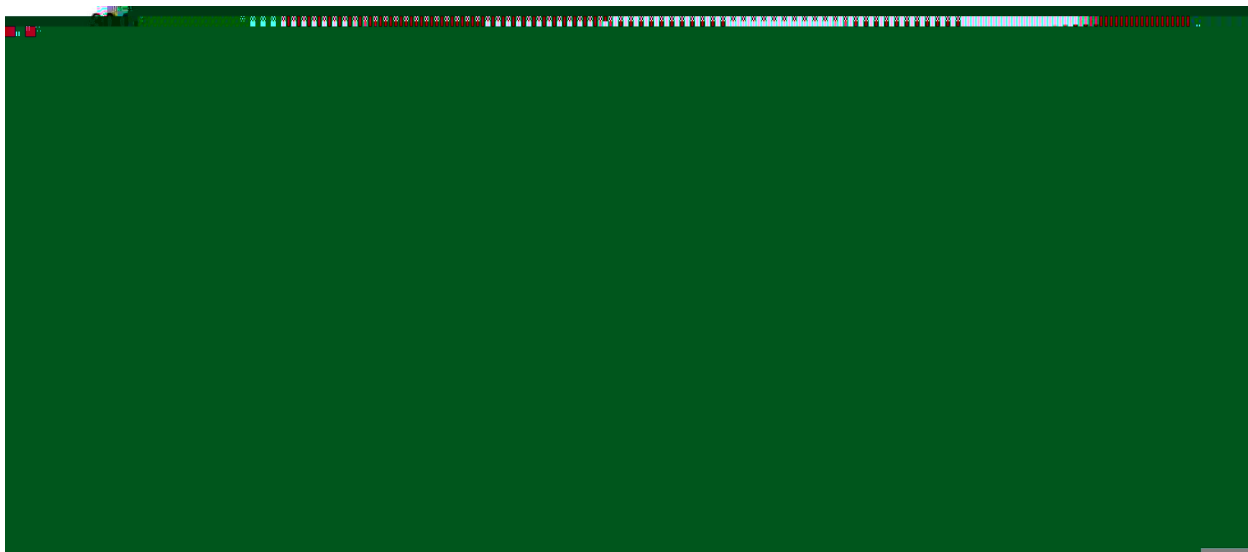


/ Package Dimensions





( ) / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- |   |     |     |    |         |                                         |
|---|-----|-----|----|---------|-----------------------------------------|
| 1 | 25  | 150 | 60 | 90sec;  | 1.Preheating:25~150 , Time:60~90sec.    |
| 2 | 255 | 5   | 5  | 0.5sec; | 2.Peak Temp.:255 5 , Duration:5 0.5sec. |
| 3 |     | 2   | 10 | /sec.   | 3. Cooling Speed: 2~10 /sec.            |

/ Resistance to Soldering Heat Test Conditions

270 5                      10 1 sec.                      Temp.:270±5                      Time:10±1 sec

/ Packaging SPEC.

/ TUBE

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------------|-------------|-------------|
|                      | Units/Tube<br>只/套管 | Tubes/Inner Box<br>套管/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Tube 套管                                 | Inner Box 盒 | Outer Box 箱 |
| TO-3P                | 30                 | 15                      | 450                    | 5                            | 2250                   | 497.5×46×8                              | 555×164×50  | 575×290×180 |

/ Notices