

/ Descriptions

SOT-23 PNP Silicon PNP transistor in a SOT-23 Plastic Package.

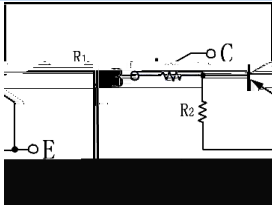
/ Features

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

/ Applications

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

/ Equivalent Circuit



/ Pinning



PIN 1 Base PIN 2 Emitter PIN 3 Collector

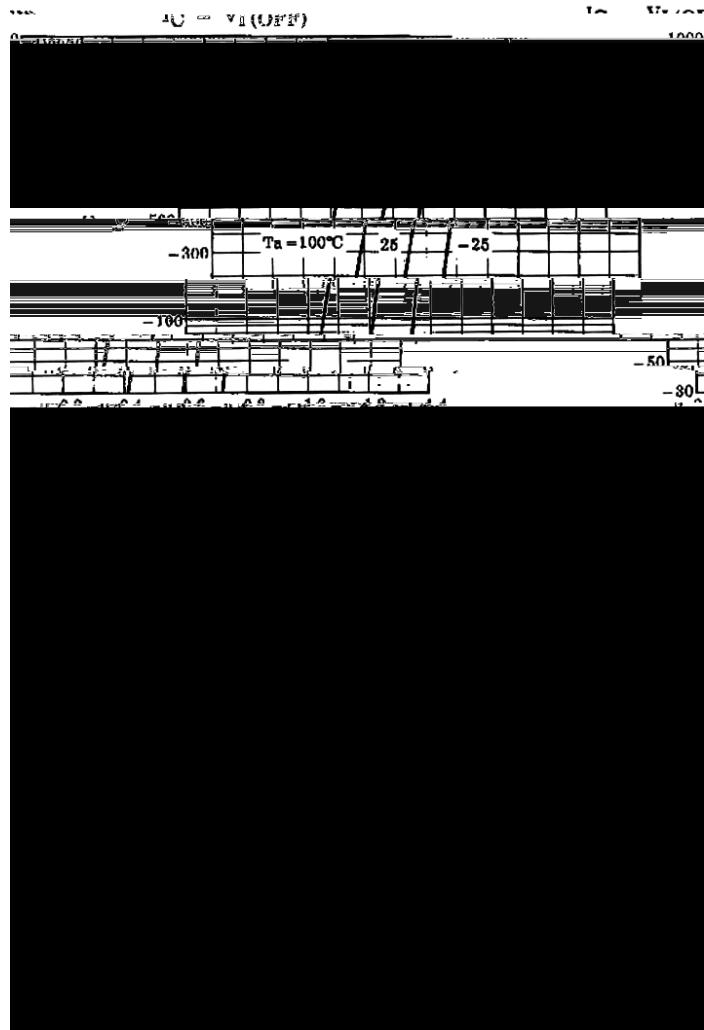
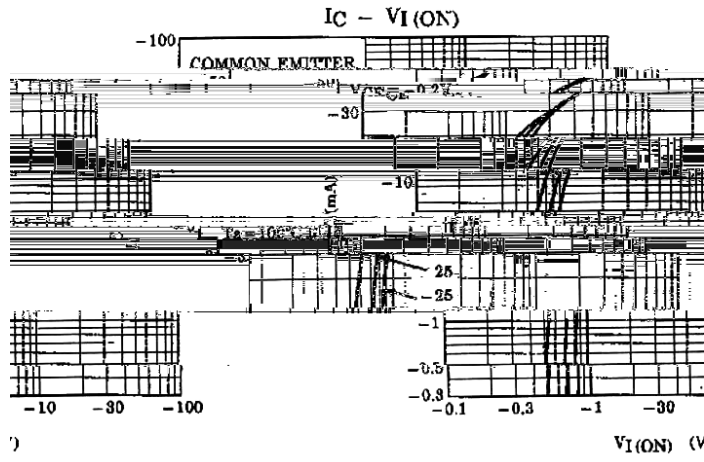
/ h_{FE} Classifications & Marking

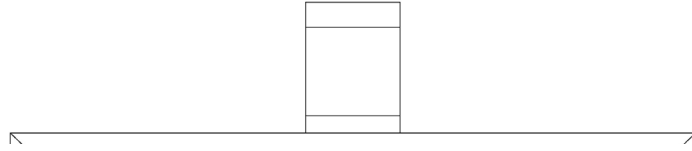
| | |
|-----------------------|------|
| h _{FE} Range | >80 |
| Marking | HE32 |

| Parameter | Symbol | Rating | Unit |
|------------------------------|-----------|---------|------|
| Collector to Base Voltage | V_{CBO} | -50 | V |
| Collector to Emitter Voltage | V_{CEO} | -50 | V |
| Emitter to Base Voltage | V_{EBO} | -5.0 | V |
| Collector Current | I_C | -100 | mA |
| Collector Power Dissipation | P_C | 200 | mW |
| Junction Temperature | T_j | 150 | |
| Storage Temperature Range | T_{stg} | -55 150 | |

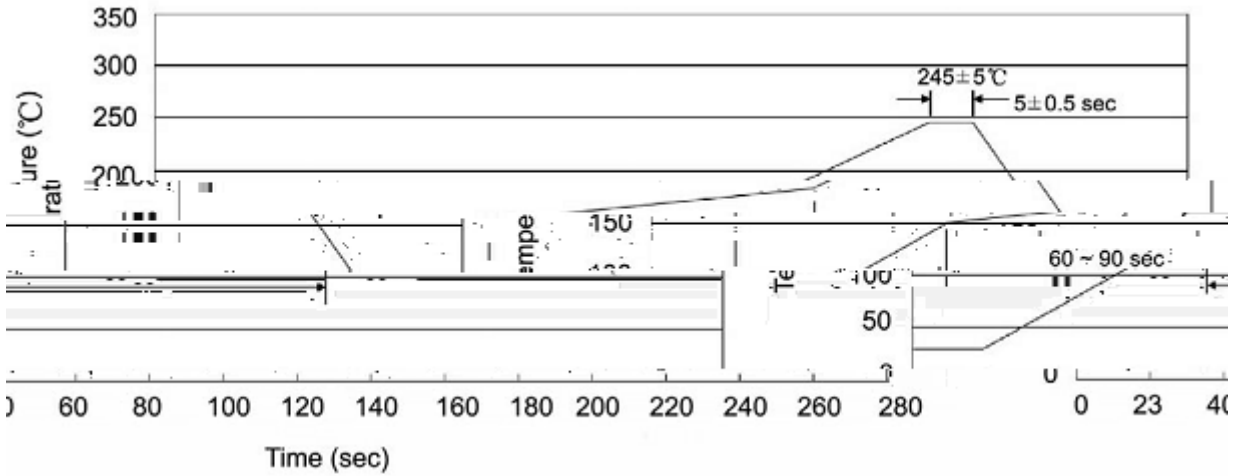
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---------------|---------------------------------------|--------|------|--------|------|
| Input Voltage | $V_{I(ON)}$ | $V_{CE}=-0.2V$ $I_C=-5.0mA$ | -0.6 | | -1.1 | V |
| Input Voltage | $V_{I(OFF)}$ | $V_{CE}=-5.0V$ $I_C=-0.1mA$ | -0.5 | | -0.8 | V |
| Collector Cut-Off Current | I_{CBO} | $V_{CB}=-50V$ $I_E=0$ | | | -0.1 | A |
| Collector Cut-Off Current | I_{CEO} | $V_{CE}=-50V$ $I_B=0$ | | | -0.5 | A |
| Emitter Cut-Off Current | I_{EBO} | $V_{EB}=-5.0V$ $I_C=0$ | -0.078 | | -0.145 | mA |
| DC Current Gain | h_{FE} | $V_{CE}=-5.0V$ $I_C=-10mA$ | 80 | | | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-5.0mA$ $I_B=-0.25mA$ | | -0.1 | -0.3 | V |
| Transition Frequency | f_T | $V_{CE}=-10V$ $I_C=-5.0mA$ | | 200 | | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB}=-10V$ $I_E=0mA$ $f=1.0MHz$ | | 3.0 | 6.0 | pF |
| Input Resistor | R_1 | | 1.54 | 2.2 | 2.86 | K |
| Resistor ratio | R_2/R_1 | | 19.4 | 21 | 23.7 | |

/ Electrical Characteristic Curve





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



Note:

- | | | | | | |
|---|-------|-----|----|-----------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , 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 封装形式 | Units 包装数量 | | | | Dimension 包装尺寸 (unit: mm ³) | | |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|---|------|-------------|
| | Units/Reel 只/卷盘 | Reels/Inner Box 卷盘/盒 | Units/Inner Box 只/盒 | Inner Boxes/Outer Box 盒/箱 | Units/Outer Box 只/箱 | Reel | Inner Box 盒 |