

Descriptions

Silicon PNP transistor in a SOT-89 Plastic Package

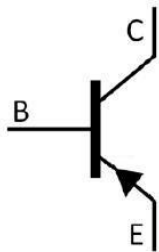
Features

- High breakdown voltage
- Good h_{FE} linearity
- Low $V_{CE(sat)}$
- Complements the 2SD1898
- Halogen-free product

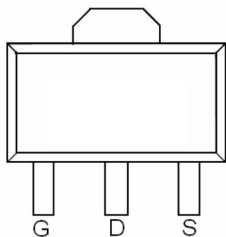
Applications

General power amplifier applications.

Equivalent Circuit



Pinning



SOT-89 top view

PIN1: Base PIN 2: Collector PIN 3: Emitter

h_{FE} Classifications & Marking

| h_{FE} Classifications Symbol | P | Q | R |
|---------------------------------|--------|---------|---------|
| h_{FE} Range | 82~180 | 120~270 | 180~390 |
| Marking | HBHP | HBHQ | HBHR |

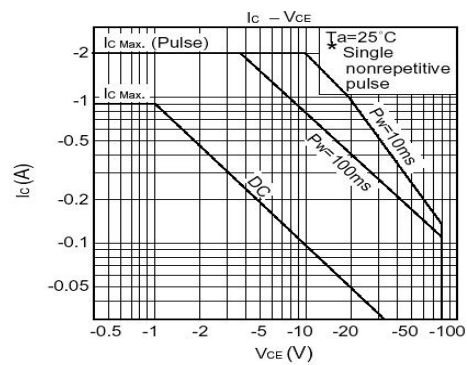
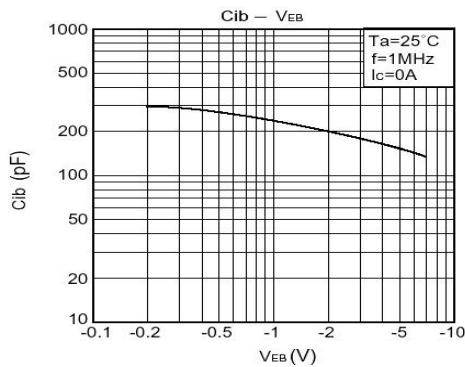
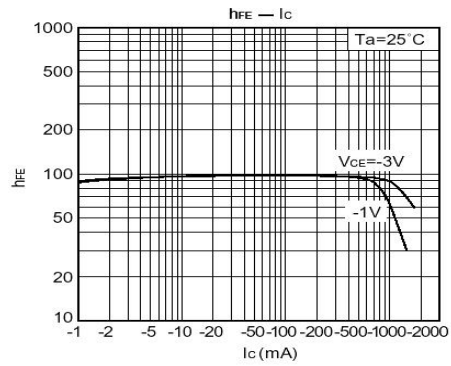
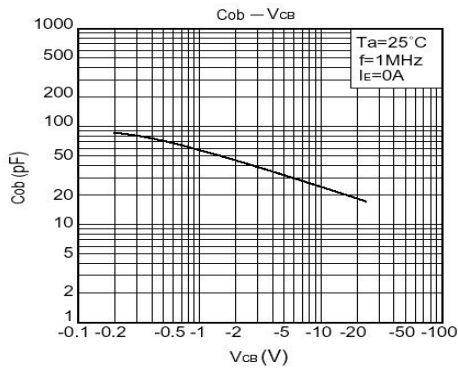
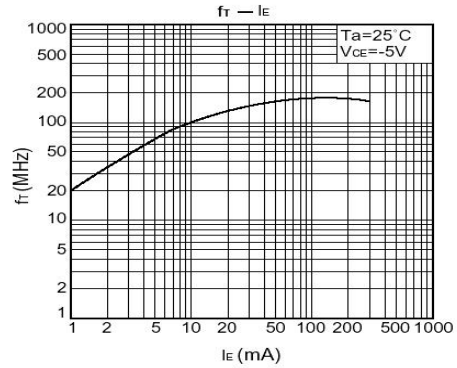
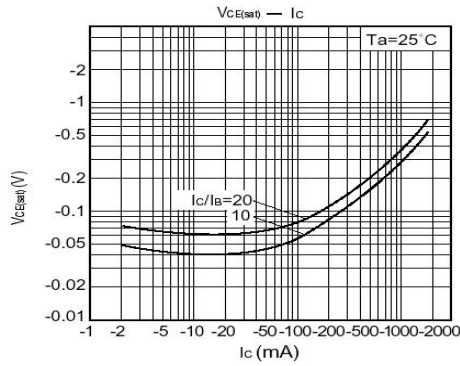
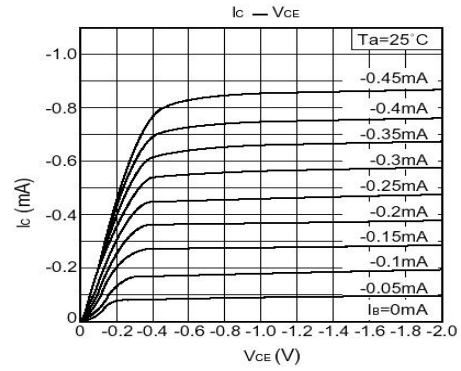
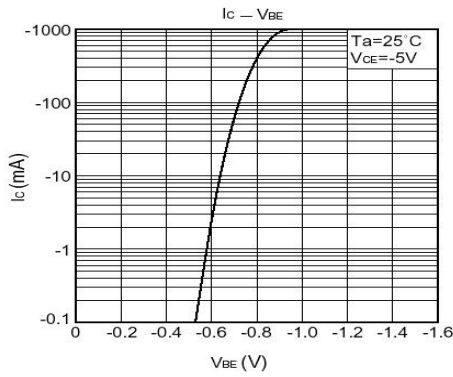
Absolute Maximum Ratings(Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|-------------------------------------|-----------|---------|------|
| Collector to Base Voltage | V_{CB0} | -80 | V |
| Collector to Emitter Voltage | V_{CEO} | -80 | V |
| Emitter to Base Voltage | V_{EBO} | -5.0 | V |
| Collector Current-Continuous | I_C | -1.0 | A |
| Collector Current-Continuous(Pulse) | $*I_{CP}$ | -2.0 | A |
| Collector Power Dissipation | $**P_C$ | 0.5 | W |
| | $*P_C$ | 2.0 | W |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature Range | T_{stg} | -55~150 | °C |

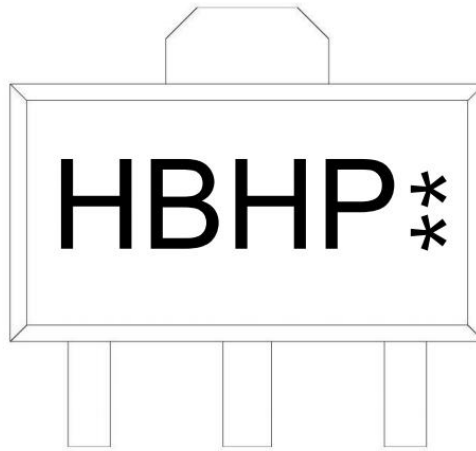
Electrical Characteristics(Ta=25°C)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---------------|--------------------------------------|------|-----|------|---------|
| Collector to Base Breakdown Voltage | V_{CB0} | $I_C=-50\mu A$ $I_E=0$ | -80 | | | V |
| Collector to Emitter Breakdown Voltage | V_{CEO} | $I_C=-1.0mA$ $I_B=0$ | -80 | | | V |
| Emitter to Base Breakdown Voltage | V_{EBO} | $I_E=-50\mu A$ $I_C=0$ | -5.0 | | | V |
| Collector Cut-Off Current | I_{CBO} | $V_{CB}=-60V$ $I_E=0$ | | | -1.0 | μA |
| Emitter Base Cut-Off Current | I_{EBO} | $V_{EB}=-4.0V$ $I_C=0$ | | | -1.0 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=-3.0V$ $I_C=-0.1A$ | 82 | | 390 | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-500mA$ $I_B=-50mA$ | | | -0.4 | V |
| Transition Frequency | f_T | $V_{CE}=-5.0V$ $I_C=-50mA$ $f=30MHz$ | | 100 | | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CE}=-10V$ $f=1.0MHz$ $I_E=0$ | | 25 | | pF |

Electrical Characteristic Curve



Marking Instructions



Note:

- H: Company Code
- BH: Product Type
- P: h_{FE} Classifications Symbol
- ** : Lot No. Code, code change with Lot No

| h_{FE} Classifications Symbol | P | Q | R |
|---------------------------------|--------|---------|---------|
| h_{FE} Range | 82~180 | 120~270 | 180~390 |
| Marking | HBHP | HBHQ | HBHR |

Packaging SPEC

REEL INFORMATION

| Package Type | Units | | | | | Dimension (unit: mm ³) | | |
|--------------|------------|-----------------|-----------------|-----------------------|-----------------|------------------------------------|-------------|-------------|
| | Units/Reel | Reels/Inner Box | Units/Inner Box | Inner Boxes/Outer Box | Units/Outer Box | Reel | Inner Box | Outer Box |
| SOT-89 | 1,000 | 7 | 7,000 | 8 | 56,000 | 7" x12 | 180x120x180 | 385x257x392 |

Package Outline Dimensions

SOT-89

单位: mm

