NEC
ELECTRON DEVICE

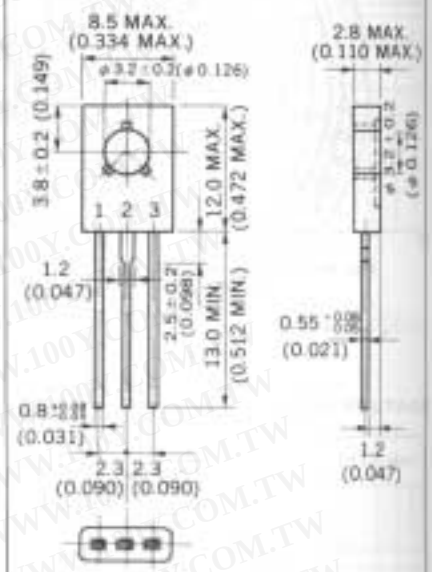
# NPN SILICON POWER TRANSISTOR
# 2SC2682

**DESCRIPTION** The 2SC2682 is designed for use in Audio frequency power amplifier.

**FEATURES**

- High voltage. $V_{CEO} > 180$ V
- Low $C_{ob}$, High $f_T$
  $f_T = 200$ MHz, $C_{ob} = 3.2$ pF
- Complementary to the NEC 2SA1142 PNP Transistor.

**PACKAGE DIMENSIONS**
in millimeters (inches)




1. Emitter
2. Collector connected to mounting plane
3. Base

## ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures
- Storage Temperature . . . . . −55 to +150 °C
- Junction Temperature . . . . . 150 °C Maximum

Maximum Power Dissipations
- Total Power Dissipation ($T_a$ = 25 °C) . . . . . 1.2 W
- Total Power Dissipation ($T_c$ = 25 °C) . . . . . 10 W

Maximum Voltages and Current ($T_a$ = 25 °C)
- $V_{CBO}$ Collector to Base Voltage . . . . . 180 V
- $V_{CEO}$ Collector to Emitter Voltage . . . . . 180 V
- $V_{EBO}$ Emitter to Base Voltage . . . . . 5.0 V
- $I_C$ Collector Current . . . . . 100 mA

## ELECTRICAL CHARACTERISTICS ($T_a$ = 25 °C)

| SYMBOL | CHARACTERISTIC | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS |
|---|---|---|---|---|---|---|
| $h_{FE1}$ | DC Current Gain | 90 | 190 | | — | $V_{CE}$ = 5.0 V, $I_C$ = 1.0 mA* |
| $h_{FE2}$ | DC Current Gain | 100 | 200 | 320 | — | $V_{CE}$ = 5.0 V, $I_C$ = 10 mA* |
| $f_T$ | Gain Bandwidth Product | | 200 | | MHz | $V_{CE}$ = 10 V, $I_C$ = 20 mA |
| $C_{ob}$ | Output Capacitance | | 3.2 | 5.0 | pF | $V_{CB}$ = 10 V, $I_E$ = 0, f = 1.0 MHz |
| NF | Noise Figure | | 4.0 | | dB | $V_{CE}$ = 10 V, $I_C$ = 1.0 mA, $R_G$ = 10 kΩ, f = 1.0 kHz |
| $I_{CBO}$ | Collector Cutoff Current | | | 1.0 | μA | $V_{CB}$ = 180 V, $I_E$ = 0 |
| $I_{EBO}$ | Emitter Cutoff Current | | | 1.0 | μA | $V_{EB}$ = 3.0 V, $I_C$ = 0 |
| $V_{CE(sat)}$ | Collector Saturation Voltage | | 0.12 | 0.5 | V | $I_C$ = 50 mA, $I_B$ = 5.0 mA* |
| $V_{BE(sat)}$ | Base Saturation Voltage | | 0.8 | 1.5 | V | $I_C$ = 50 mA, $I_B$ = 5.0 mA* |

*Pulse Test : PW ≤ 350 μs, Duty Cycle ≤ 2 %

Classification of $h_{FE}$

| Rank | Q | P |
|---|---|---|
| Range | 100 to 200 | 160 to 320 |

Test Conditions : $V_{CE}$ = 5.0 V, $I_C$ = 10 mA


勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-54151736
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw