

NPN SILICON POWER TRANSISTOR

2SC2682

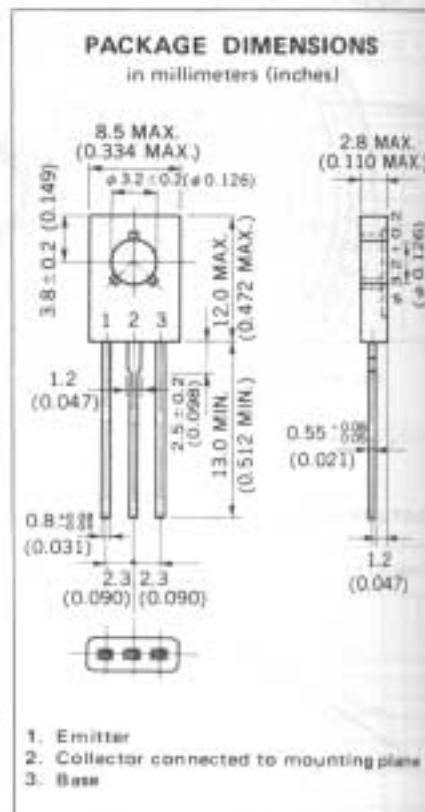
DESCRIPTION The 2SC2682 is designed for use in Audio frequency power amplifier.

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.

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, $R_G = 10$ k Ω , $f = 1.0$ kHz |
| I_{CBO} | Collector Cutoff Current | | | 1.0 | μ A | $V_{CB} = 180$ V, $I_E = 0$ |
| I_{EBO} | Emitter Cutoff Current | | | 1.0 | μ A | $V_{EB} = 3.0$ 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 \leq 350 μ s, Duty Cycle \leq 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