NEC
ELECTRON DEVICE

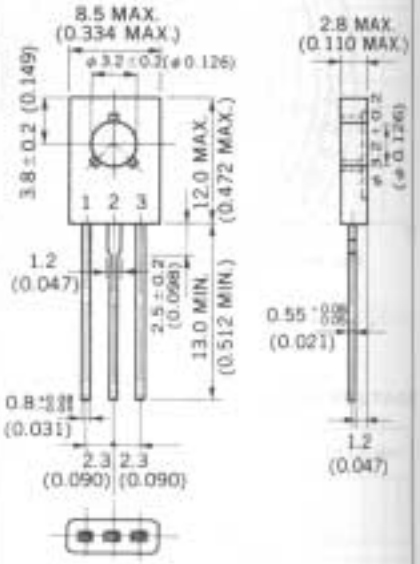
NPN SILICON POWER TRANSISTOR
2SC2682

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