# Silicon NPN Power Transistors 2SC3182N

## DESCRIPTION

- With TO-3P(I) package
- Complement to type 2SA1265N

## APPLICATIONS

- Power amplifier applications
- Recommend for 70W high fidelity audio frequency amplifier output stage

**PINNING**

| PIN | DESCRIPTION |
|---|---|
| 1 | Base |
| 2 | Collector;connected to mounting base |
| 3 | Emitter |

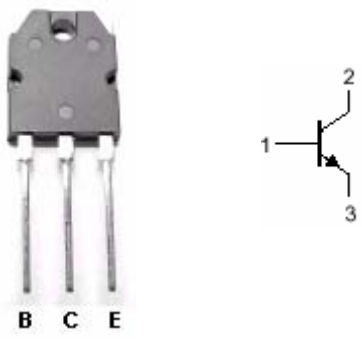



**Fig.1 simplified outline (TO-3P(I)) and symbol**

## Absolute maximum ratings(Ta=25℃)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|
| $V_{CBO}$ | Collector-base voltage | Open emitter | 140 | V |
| $V_{CEO}$ | Collector-emitter voltage | Open base | 140 | V |
| $V_{EBO}$ | Emitter-base voltage | Open collector | 5 | V |
| $I_C$ | Collector current | | 10 | A |
| $I_B$ | Base current | | 1 | A |
| $P_T$ | Total power dissipation | $T_C$=25℃ | 100 | W |
| $T_j$ | Junction temperature | | 150 | ℃ |
| $T_{stg}$ | Storage temperature | | -55~150 | ℃ |

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## CHARACTERISTICS

**Tj=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage | $I_C$=50mA ,$I_B$=0 | 140 | | | V |
| $V_{CEsat}$ | Collector-emitter saturation voltage | $I_C$=7A; $I_B$=0.7A | | | 2.0 | V |
| $V_{BE}$ | Base-emitter voltage | $I_C$=5A ; $V_{CE}$=5V | | | 1.5 | V |
| $I_{CBO}$ | Collector cut-off current | $V_{CB}$=140V; $I_E$=0 | | | 5 | μA |
| $I_{EBO}$ | Emitter cut-off current | $V_{EB}$=5V; $I_C$=0 | | | 5 | μA |
| $h_{FE-1}$ | DC current gain | $I_C$=1A ; $V_{CE}$=5V | 55 | | 160 | |
| $h_{FE-2}$ | DC current gain | $I_C$=5A ; $V_{CE}$=5V | 35 | | | |
| $f_T$ | Transition frequency | $I_C$=1A ; $V_{CE}$=5V | | 30 | | MHz |
| $C_{ob}$ | Output capacitance | $I_E$=0 ; $V_{CB}$=10V ;f=1MHz | | 220 | | pF |

◆ **$h_{FE-1}$ Classifications**

| R | O |
|---|---|
| 55-110 | 80-160 |

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**PACKAGE OUTLINE**

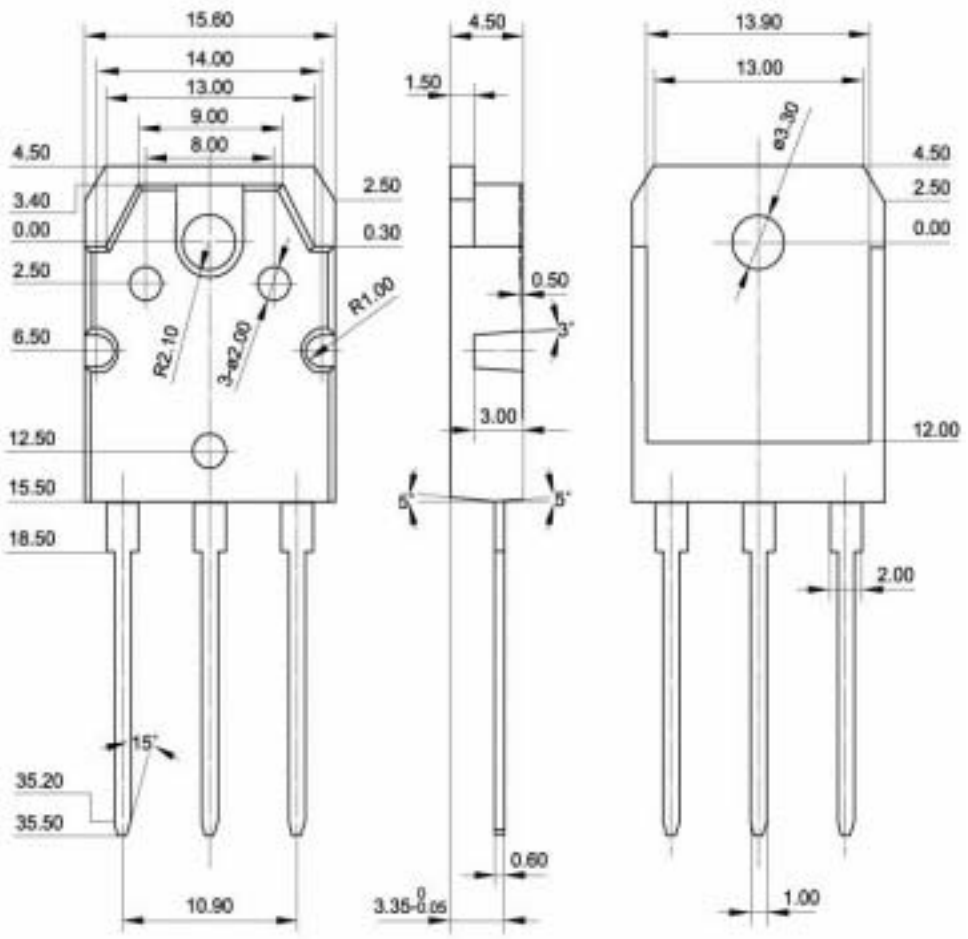



**Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)**

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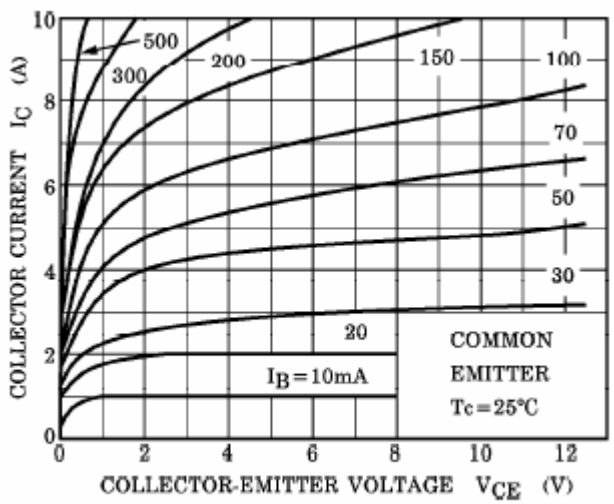



Fig.3 Static Characteristic

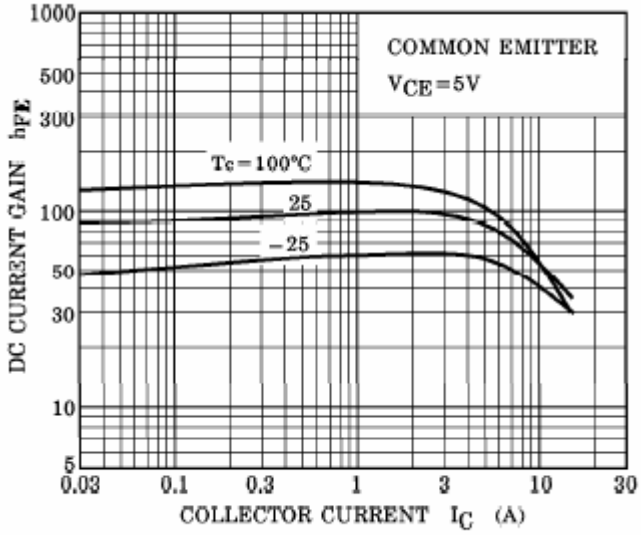



Fig.4 DC current Gain

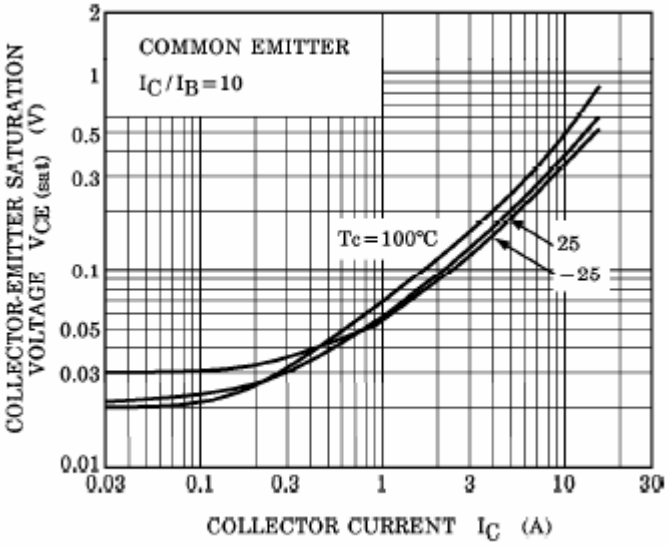



Fig.5 Collector-Emitter Saturation Voltage

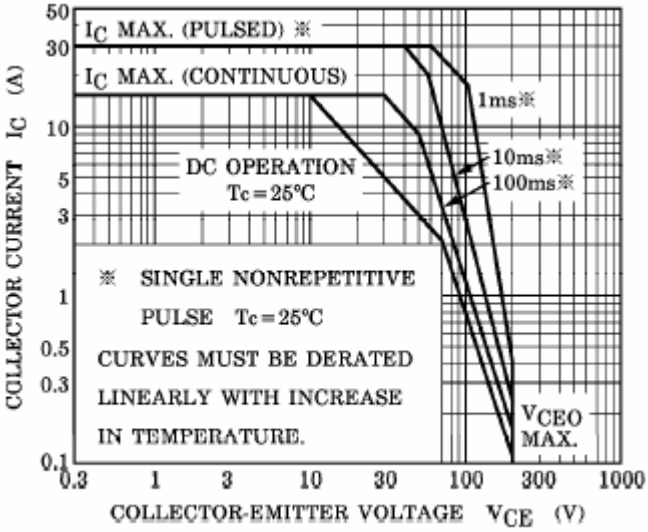



Fig.6 Safe Operating Area