# Silicon PNP Power Transistors 2SB859

## DESCRIPTION

・With TO-220C package
・Complement to type 2SD1135

## APPLICATIONS

・Low frequency power amplifier

**PINNING**

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

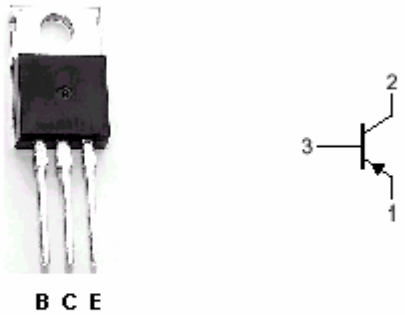


Fig.1 simplified outline (TO-220C) and symbol

## Absolute maximum ratings(Tc=25℃)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|
| $V_{CBO}$ | Collector-base voltage | Open emitter | -100 | V |
| $V_{CEO}$ | Collector-emitter voltage | Open base | -80 | V |
| $V_{EBO}$ | Emitter-base voltage | Open collector | -5 | V |
| $I_C$ | Collector current | | -4 | A |
| $I_{CP}$ | Collector current-Peak | | -8 | A |
| $P_C$ | Collector power dissipation | $T_C$=25℃ | 40 | W |
| $T_j$ | Junction temperature | | 150 | ℃ |
| $T_{stg}$ | Storage temperature | | -45~150 | ℃ |

# Silicon PNP Power Transistors 2SB859

## CHARACTERISTICS

**Tj=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage | $I_C$=-50mA; $R_{BE}$=∞ | -80 | | | V |
| $V_{(BR)EBO}$ | Emitter-base breakdown votage | $I_E$=-10 μ A; $I_C$=0 | -5 | | | V |
| $V_{CEsat}$ | Collector-emitter saturation voltage | $I_C$=-2 A;$I_B$=-0.2 A | | | -2.0 | V |
| $V_{BE}$ | Base-emitter voltage | $I_C$=-1A ; $V_{CE}$=-5V | | | -1.5 | V |
| $I_{CBO}$ | Collector cut-off current | $V_{CB}$=-80V; $I_E$=0 | | | -0.1 | mA |
| $h_{FE-1}$ | DC current gain | $I_C$=-1A ; $V_{CE}$=-5V | 60 | | 200 | |
| $h_{FE-2}$ | DC current gain | $I_C$=-0.1A ; $V_{CE}$=-5V | 35 | | | |
| Cob | Collector output capacitance | $I_C$=0; $V_{CB}$=-20V;f=1MHz | | 75 | | pF |
| $f_T$ | Transition frequency | $I_C$=-0.5A ; $V_{CE}$=-5V | | 20 | | MHz |

◆ **$h_{FE-1}$ classifications**

| B | C |
|---|---|
| 60-120 | 100-200 |

# Silicon PNP Power Transistors 2SB859

**PACKAGE OUTLINE**

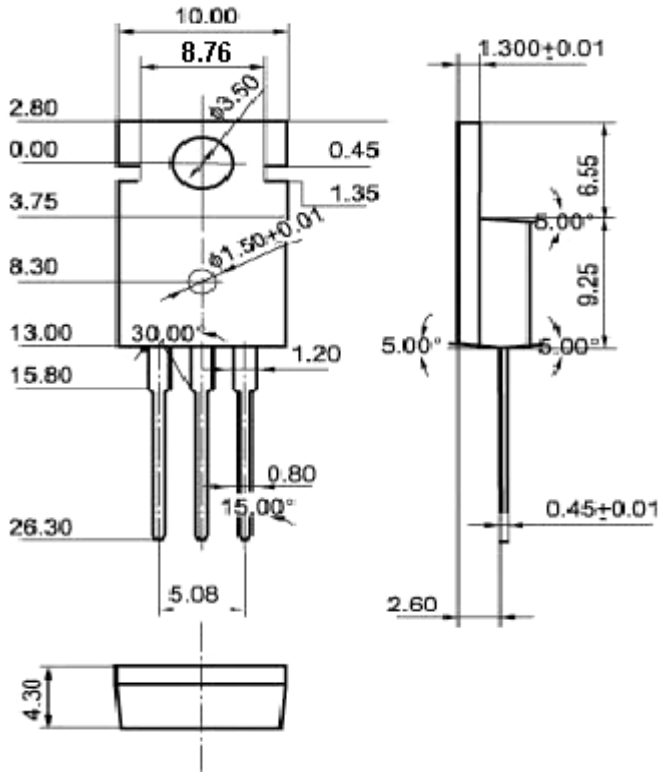


**Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)**

## Silicon PNP Power Transistors 2SB859

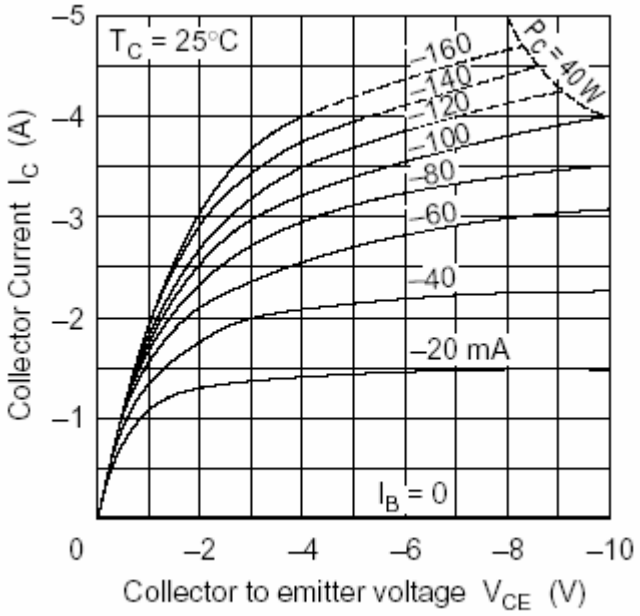


**Fig.3** Static Characteristic

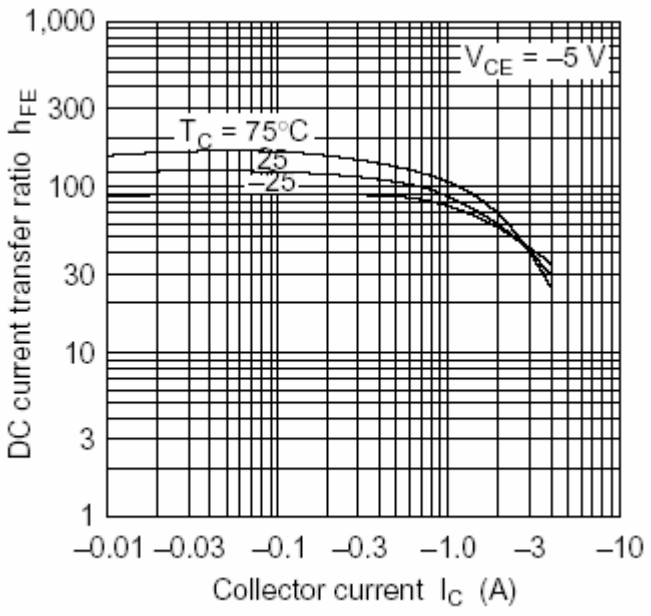


**Fig.4** DC current Gain

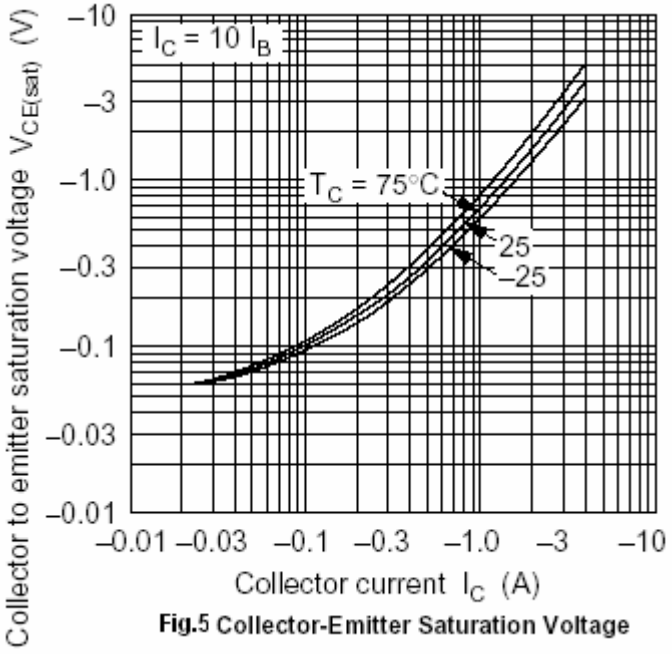


**Fig.5** Collector-Emitter Saturation Voltage

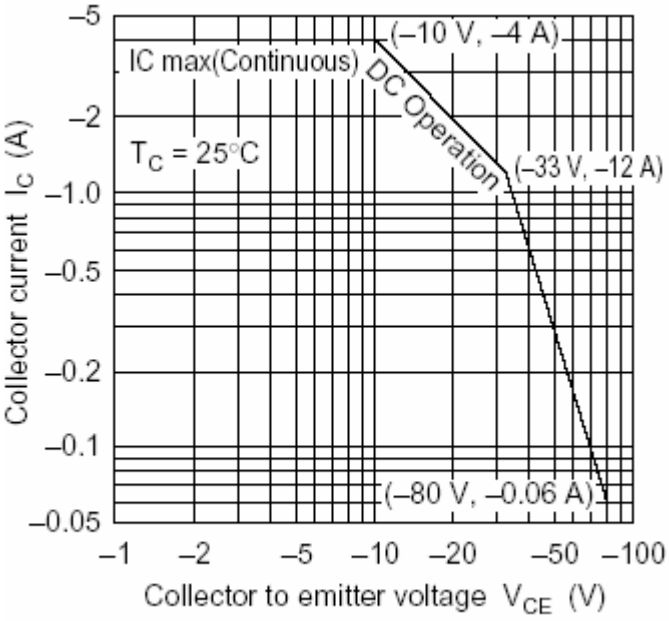


**Fig.6** Safe Operating Area