# Silicon NPN Power Transistors 2SC2899

## DESCRIPTION

·With TO-126 package

·High voltage,high speed

## APPLICATIONS

·For high speed and high voltage switching applications

### PINNING

| PIN | DESCRIPTION |
|---|---|
| 1 | Emitter |
| 2 | Collector |
| 3 | Base |

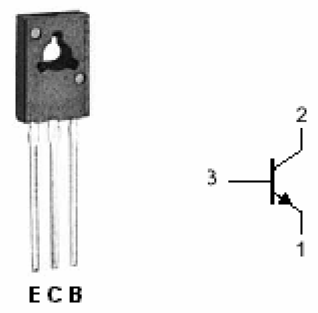

**Fig.1 simplified outline (TO-126) and symbol**

### Absolute maximum ratings (Ta=25□)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|
| $V_{CBO}$ | Collector-base voltage | Open emitter | 500 | V |
| $V_{CEO}$ | Collector-emitter voltage | Open base | 400 | V |
| $V_{EBO}$ | Emitter-base voltage | Open collector | 10 | V |
| $I_C$ | Collector current |  | 0.5 | A |
| $I_{CM}$ | Collector current-peak |  | 1.0 | A |
| $P_C$ | Collector power dissipation | $T_a$=25□ | 0.75 | W |
|  |  | $T_C$=25□ | 10 |  |
| $T_j$ | Junction temperature |  | 150 | □ |
| $T_{stg}$ | Storage temperature |  | -55~150 | □ |

## CHARACTERISTICS

**Tj=25 unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-emitter sustaining voltage | $I_C$=0.1A; $R_{BE}=\infty$,L=100mH | 400 | | | V |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage | $I_E$=10mA; $I_C$=0 | 10 | | | V |
| $V_{CEsat}$ | Collector-emitter saturation voltage | $I_C$=250mA; $I_B$=50m A | | | 1.0 | V |
| $V_{BEsat}$ | Base-emitter saturation voltage | $I_C$=250mA ;$I_B$=50m A | | | 1.5 | V |
| $h_{FE-1}$ | DC current gain | $I_C$=250mA ; $V_{CE}$=5V | 15 | | | |
| $h_{FE-2}$ | DC current gain | $I_C$=500mA ; $V_{CE}$=5V | 7 | | | |
| $I_{CBO}$ | Collector cut-off current | $V_{CB}$=400V; $I_E$=0 | | | 20 | μA |
| $I_{CEO}$ | Collector cut-off current | $V_{CE}$=350V; $R_{BE}=\infty$ | | | 50 | μA |

Switching times

| | | | | | | |
|---|---|---|---|---|---|---|
| $t_{on}$ | Turn-on time | $I_C$=0.5A; $I_{B1}=-I_{B2}$=0.1A<br>$V_{CC}\approx$150V | | | 1.0 | μs |
| $t_{stg}$ | Storage time | | | | 2.0 | μs |
| $t_f$ | Fall time | | | | 1.0 | μs |

**PACKAGE OUTLINE**

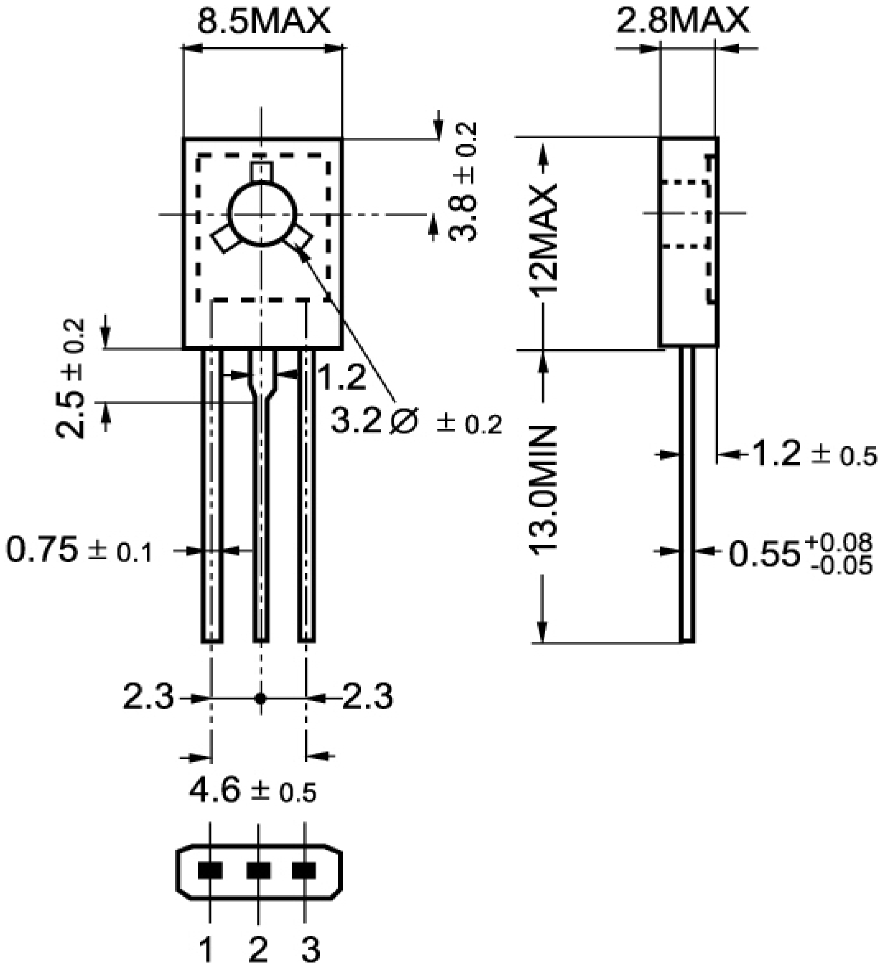

Fig.2 outline dimensions

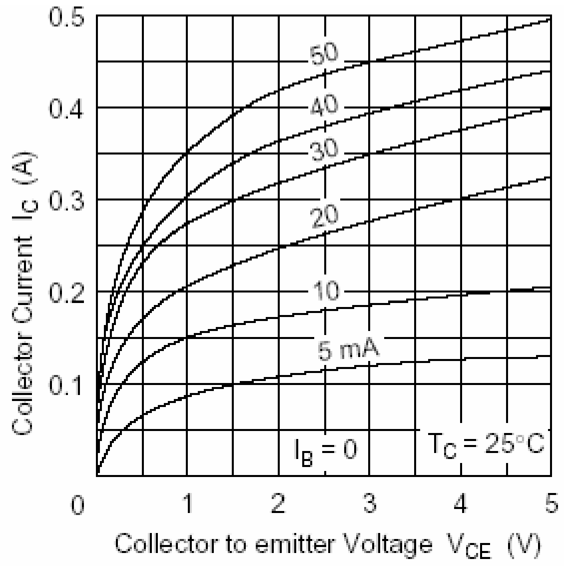

**Fig.3** Static Characteristic

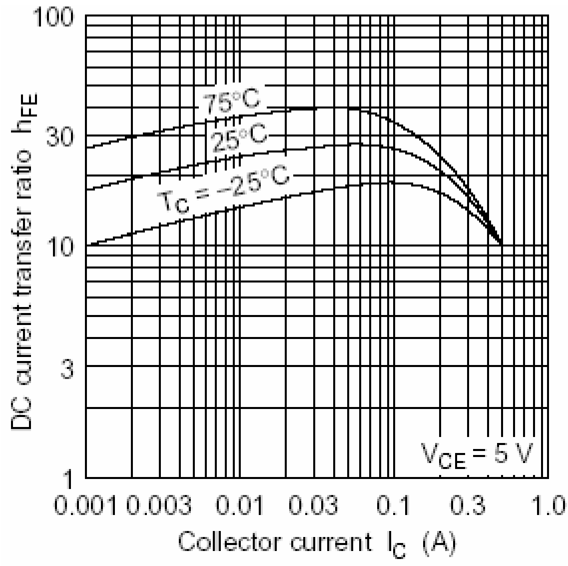

**Fig.4** DC current Gain

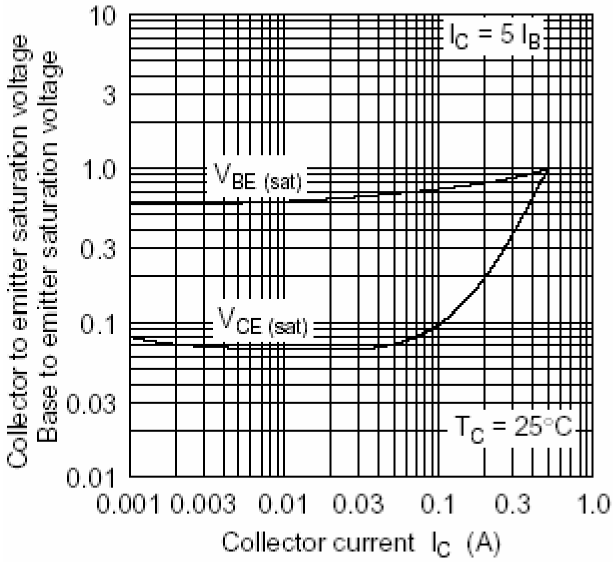

**Fig.5** Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

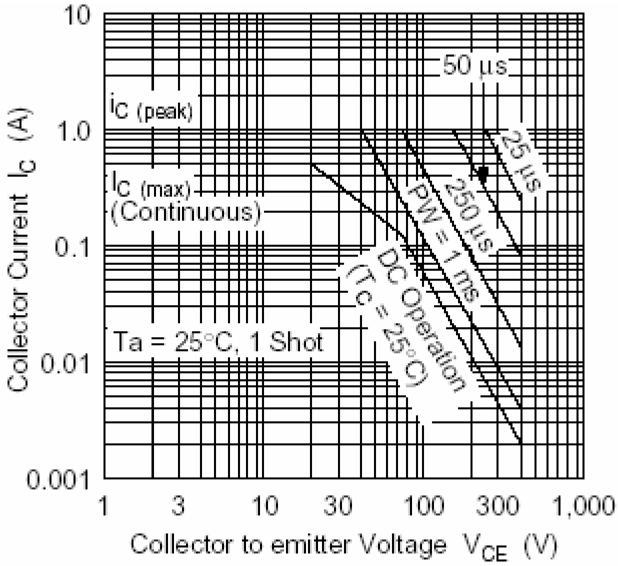

**Fig.6** Safe Operating Area