

Silicon PNP Power Transistors

2SA1110

DESCRIPTION

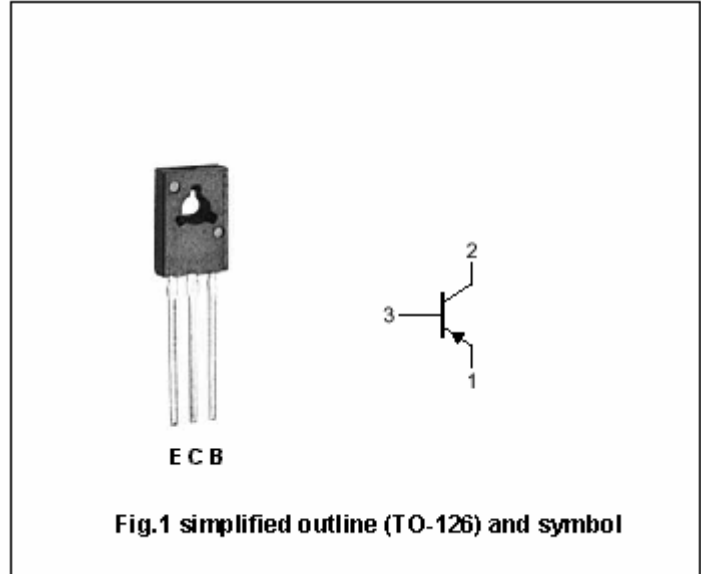
- With TO-126 package
- Complement to type 2SC2590
- Excellent current I_C characteristics of forward current transfer ratio h_{FE} vs. collector
- High transition frequency f_T
- Optimum for the driver stage of a 40w to 60w output amplifier

APPLICATIONS

- For low-frequency power amplification

PINNING

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

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| V_{CBO} | Collector-base voltage | Open emitter | -120 | V |
| V_{CEO} | Collector-emitter voltage | Open base | -120 | V |
| V_{EBO} | Emitter-base voltage | Open collector | -5 | V |
| I_C | Collector current (DC) | | -0.5 | A |
| I_{CM} | Collector current-Peak | | -1.0 | A |
| P_C | Collector power dissipation | $T_C=25$ | 1.2* | W |
| T_j | Junction temperature | | 150 | |
| T_{stg} | Storage temperature | | -55~150 | |

Note) *: Without heat sink

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CHARACTERISTICS

T_j=25 unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|------|------|------|------|
| V _{(BR)CEO} | Collector-emitter breakdown voltage | I _C =-100 μ A; I _B =0 | -120 | | | V |
| V _{(BR)EBO} | Emitter-base breakdown voltage | I _E =-10 μ A; I _C =0 | -5 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =-0.3A; I _B =-30mA | | | -1.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =-0.3A; I _B =-30mA | | | -1.2 | V |
| h _{FE-1} | DC current gain | I _C =-150mA; V _{CE} =-10V | 65 | | 330 | |
| h _{FE-2} | DC current gain | I _C =-0.5A; V _{CE} =-5V | 50 | 100 | | |
| C _{OB} | Output capacitance | I _E =0; V _{CB} =-10V; f=1MHz | | | 30 | pF |
| f _T | Transition frequency | I _C =-50mA; V _{CB} =-10V, | | 200 | | MHz |

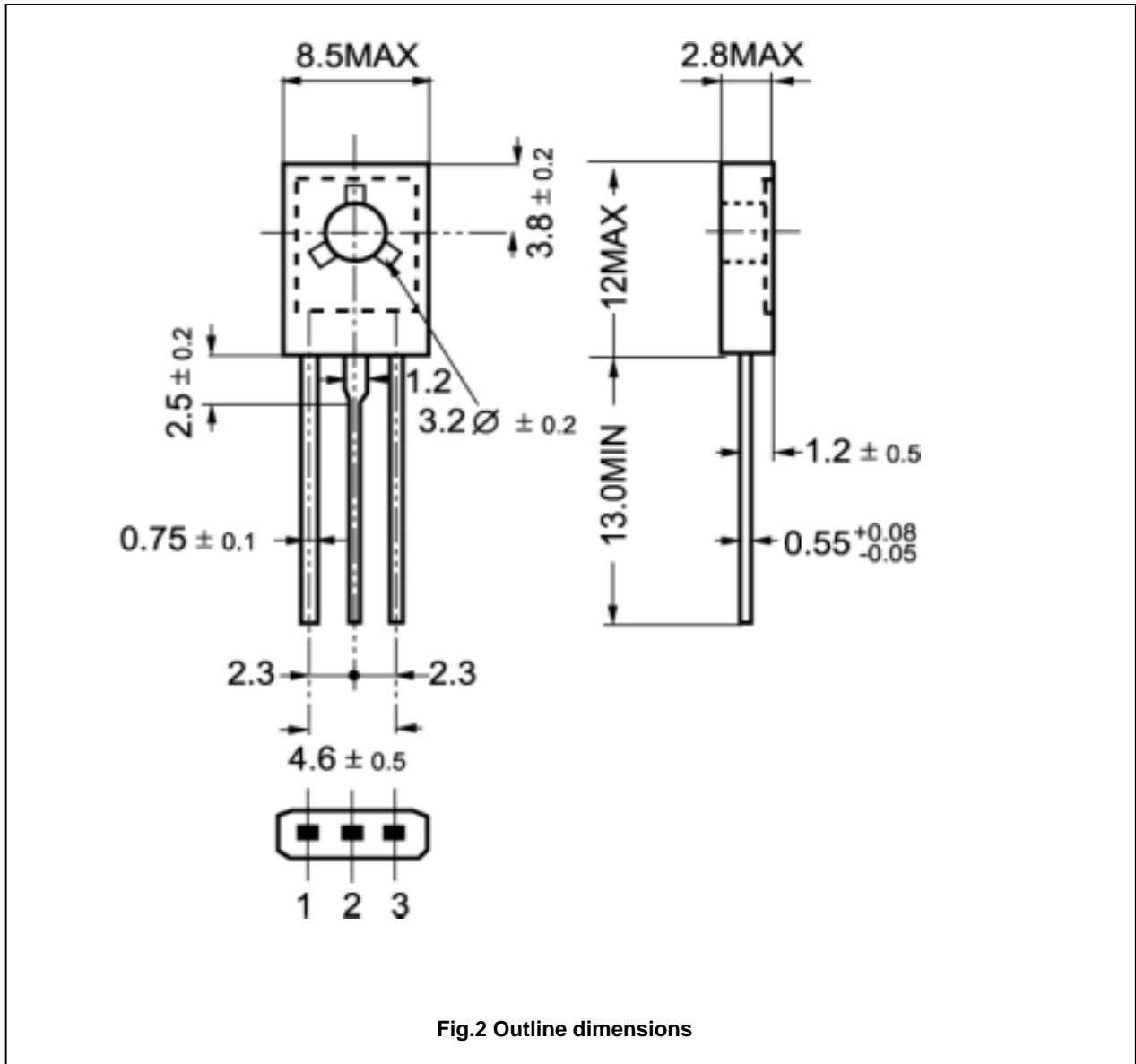
◆ h_{FE-1} Classifications

| P | Q | R | S |
|--------|--------|---------|---------|
| 65-110 | 90-155 | 130-220 | 185-330 |

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PACKAGE OUTLINE



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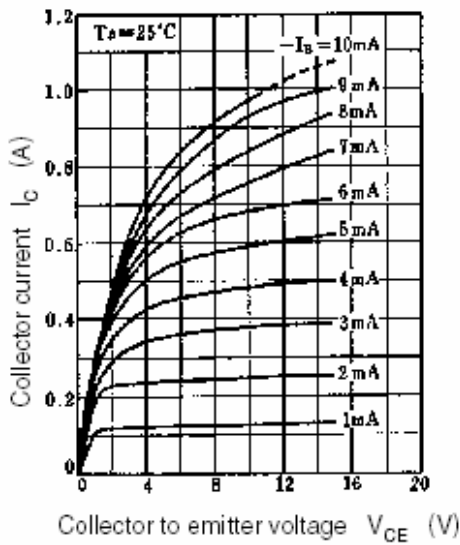


Fig.3 Static Characteristic

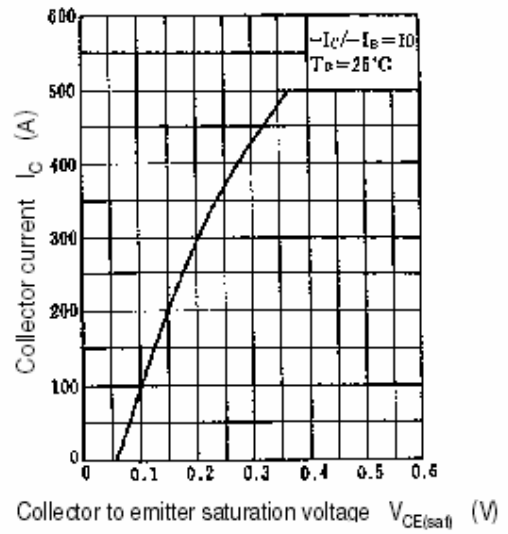


Fig.4 $I_C - V_{CE(sat)}$

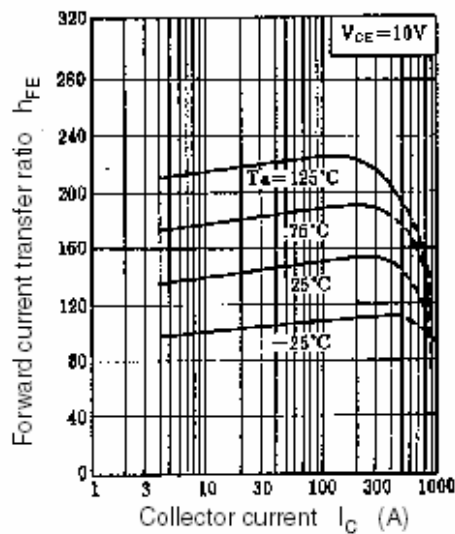


Fig.5 DC current Gain

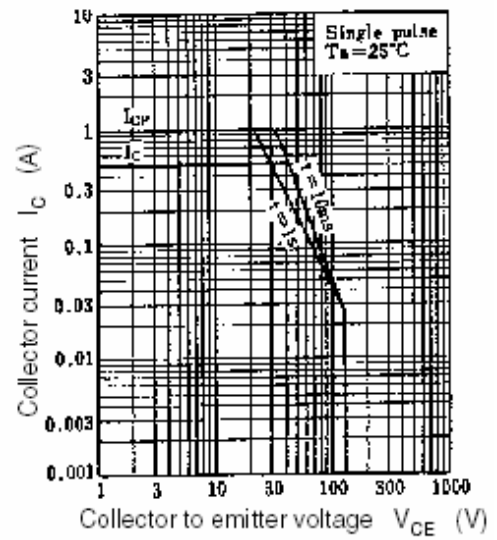


Fig.6 Safe Operating Area