

Silicon PNP Power Transistors

2SA1859 2SA1859A

DESCRIPTION

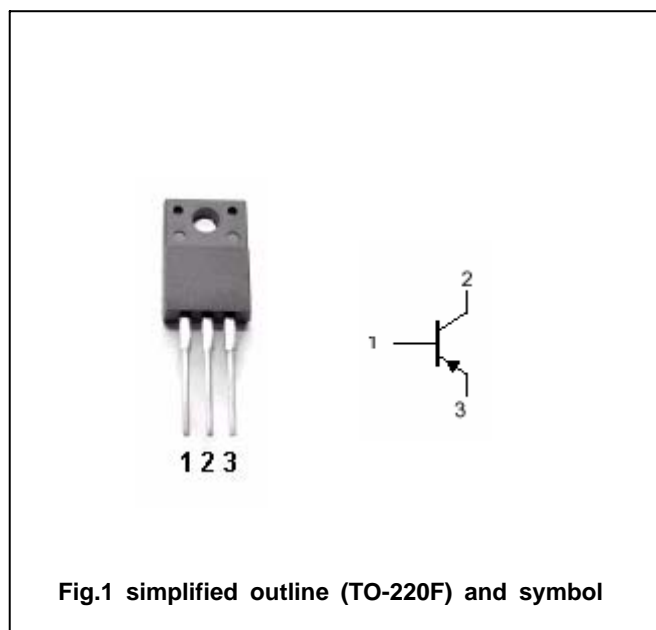
- With TO-220F package
- Complement to type 2SC4883/4883A

APPLICATIONS

- For audio output driver and TV velocity-modulation applications

PINNING

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

**Absolute maximum ratings (Ta=25 °C)**

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|--------------------|---------|------|
| V _{CB0} | Collector-base voltage | 2SA1859 | -150 | V |
| | | 2SA1859A | -180 | |
| V _{CEO} | Collector-emitter voltage | 2SA1859 | -150 | V |
| | | 2SA1859A | -180 | |
| V _{EBO} | Emitter-base voltage | Open collector | -6 | V |
| I _C | Collector current | | -2 | A |
| I _B | Base current | | -1 | A |
| P _C | Collector dissipation | T _C =25 | 20 | W |
| T _j | Junction temperature | | 150 | |
| T _{stg} | Storage temperature | | -55~150 | |

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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 | 2SA1859 | I _C =-10mA ; I _B =0 | -150 | | | V |
| | | 2SA1859A | | -180 | | | |
| V _{CEsat} | Collector-emitter saturation voltage | | I _C =-0.7A;I _B =-70mA | | | -1.0 | V |
| I _{CBO} | Collector cut-off current | 2SA1859 | V _{CB} =-150V;I _E =0 | | | -10 | μA |
| | | 2SA1859A | V _{CB} =-180V;I _E =0 | | | -10 | μA |
| I _{EBO} | Emitter cut-off current | | V _{EB} =-6V; I _C =0 | | | -10 | μA |
| h _{FE} | DC current gain | | I _C =-0.7A ; V _{CE} =-10V | 60 | | 240 | |
| f _T | Transition frequency | | I _C =-0.7A ; V _{CE} =-12V | | 60 | | MHz |
| C _{OB} | Output capacitance | | I _E =0 ; V _{CB} =-10V;f=1MHz | | 30 | | pF |
| Switching time | | | | | | | |
| t _{on} | Turn-on time | | I _C =-1A ; I _{B1} =-I _{B2} =-0.1A V _{CC} =-20V ,R _L =20 | | 0.50 | | μs |
| t _s | Storage time | | | | 1.00 | | μs |
| t _f | Fall time | | | | 0.50 | | μs |

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PACKAGE OUTLINE

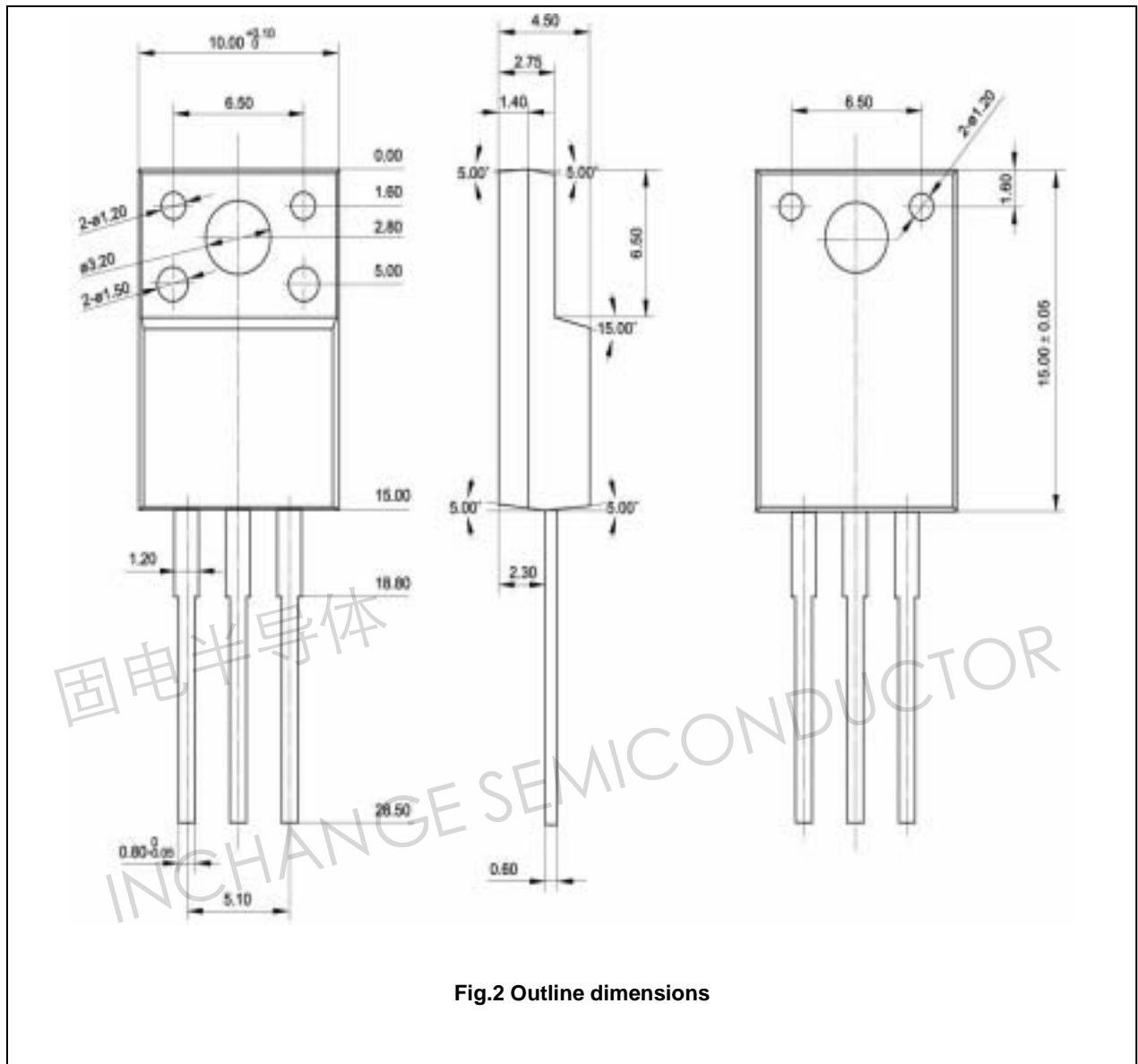


Fig.2 Outline dimensions

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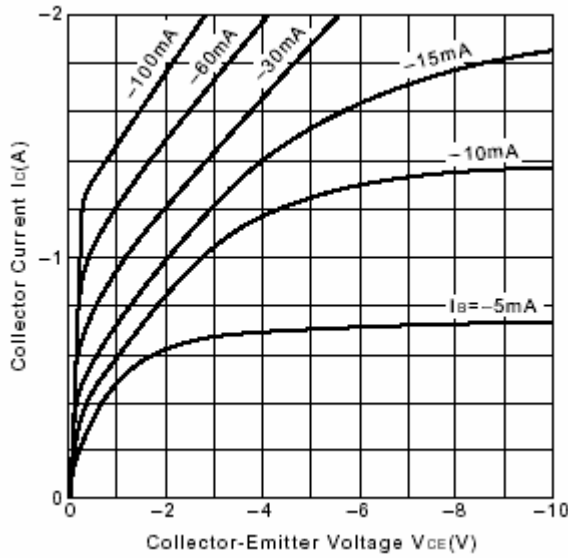


Fig.3 Static Characteristic

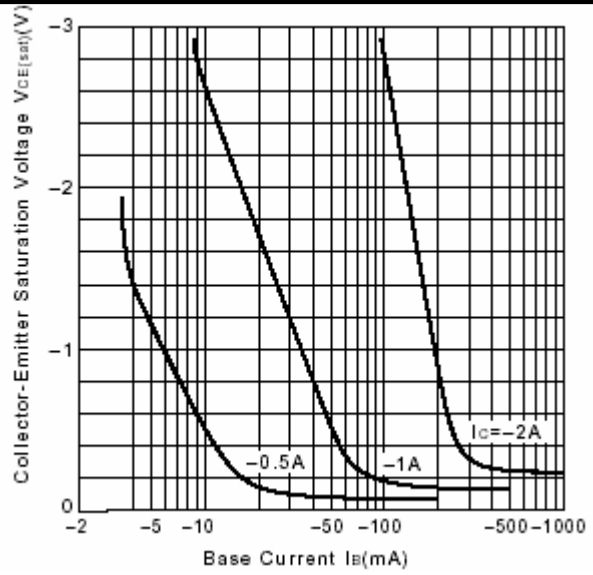


Fig.4 $V_{CE(sat)}-I_B$ Characteristics

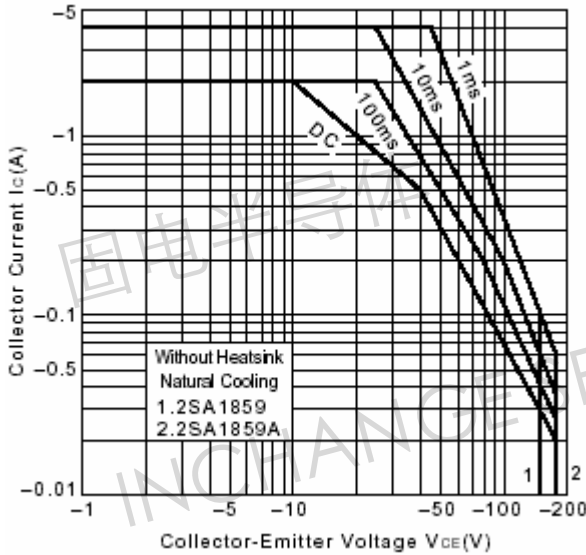


Fig.5 Safe Operating Area

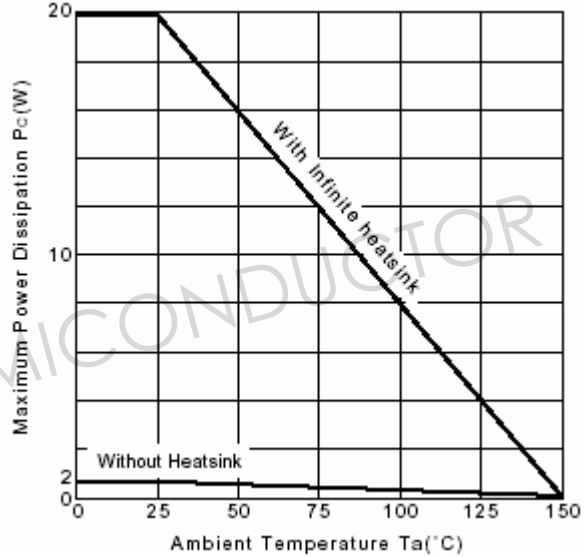


Fig.6 Power Derating

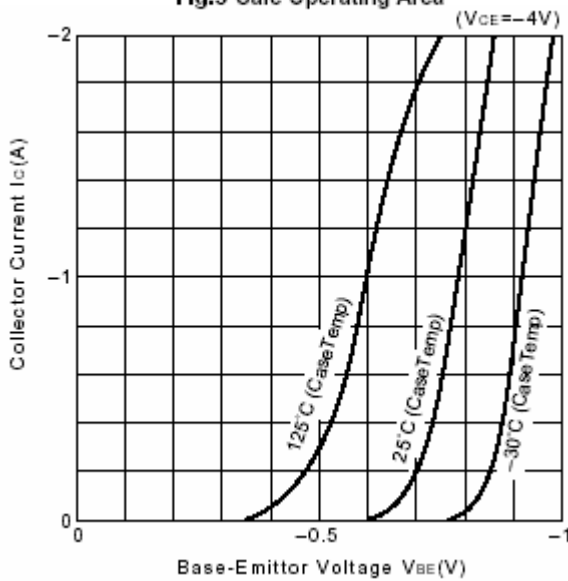


Fig.7 I_C-V_{BE}

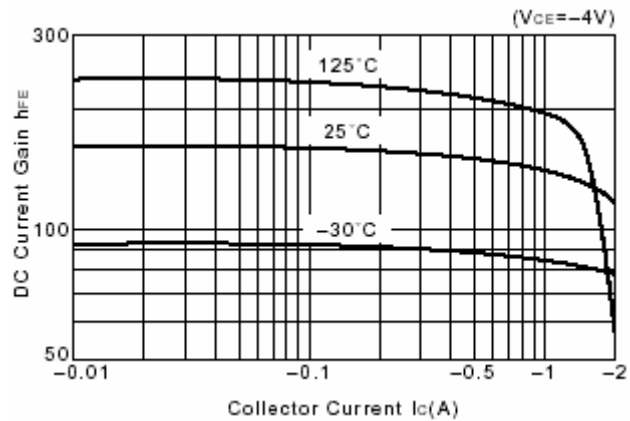


Fig.8 DC current Gain