

Silicon NPN Power Transistors

2SD1236L

DESCRIPTION

www.datasheet4u.com

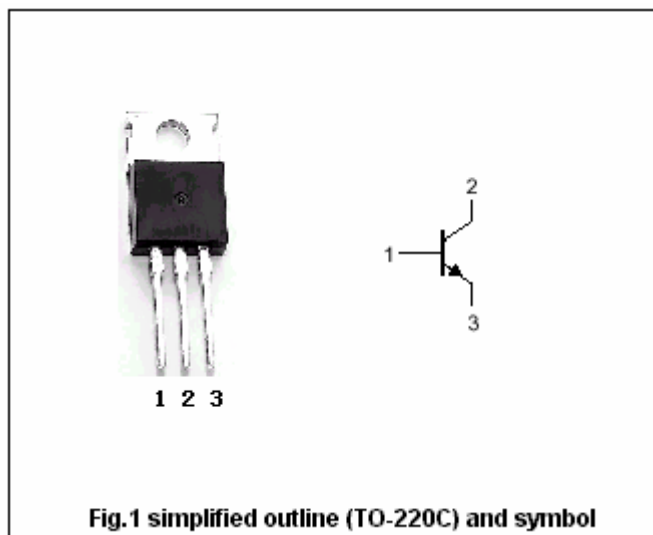
- With TO-220C package
- Complement to type 2SB920L
- Low collector saturation voltage
- Large current capacity.

APPLICATIONS

- Relay drivers,high speed inverters, converters,and other general high-current switching applications

PINNING

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



Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | 90 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 80 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 6 | V |
| I _C | Collector current (DC) | | 5 | A |
| I _{CM} | Collector current-peak | | 9 | A |
| P _C | Collector dissipation | T _C =25°C | 30 | W |
| | | | 1.75 | |
| T _j | Junction temperature | | 150 | °C |
| T _{stg} | Storage temperature | | -55~150 | °C |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|---|-----|------|-----|------|
| V _{(BR)CEO} | Collector-emitter breakdown voltage | I _C =1mA ; R _{BE} =∞ | 80 | | | V |
| V _{(BR)CBO} | Collector-base breakdown voltage | I _C =1mA ; I _E =0 | 90 | | | V |
| V _{(BR)EBO} | Emitter-base breakdown voltage | I _E =1mA ; I _C =0 | 6 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =3A ; I _B =0.3A | | | 0.4 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =80V ; I _E =0 | | | 100 | μA |
| I _{EBO} | Emitter cut-off current | V _{EB} =4V ; I _C =0 | | | 100 | μA |
| h _{FE-1} | DC current gain | I _C =1A ; V _{CE} =2V | 70 | | 280 | |
| h _{FE-2} | DC current gain | I _C =3A ; V _{CE} =2V | 30 | | | |
| f _T | Transition frequency | I _C =1A ; V _{CE} =5V | | 20 | | MHz |

Switching times

| | | | | | | |
|-----------------|--------------|--|--|-----|--|----|
| t _{on} | Turn-on time | I _C =10I _{B1} =-10I _{B2} =2A V _{CC} =50V, R _L =25Ω | | 0.1 | | μs |
| t _s | Storage time | | | 1.2 | | μs |
| t _f | Fall time | | | 0.4 | | μs |

◆ h_{FE-1} Classifications

| Q | R | S |
|--------|---------|---------|
| 70-140 | 100-200 | 140-280 |

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PACKAGE OUTLINE

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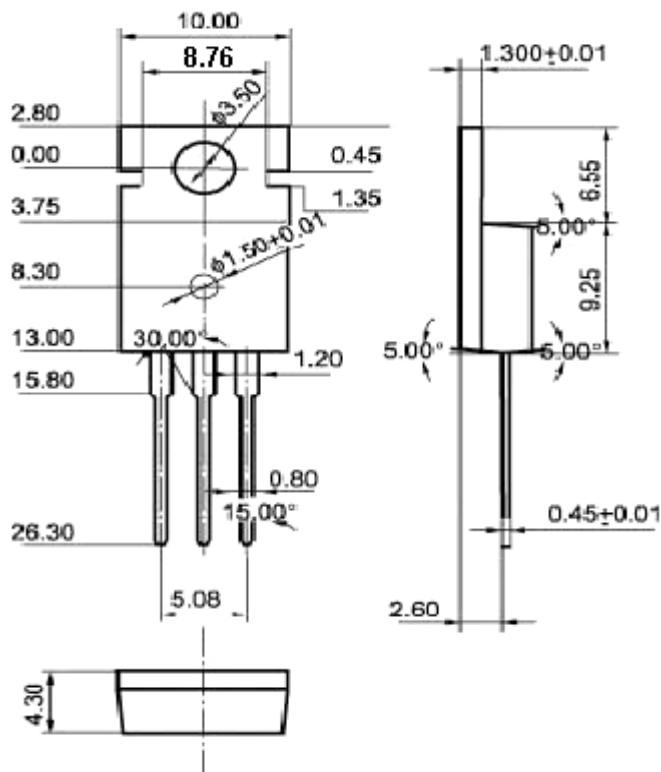


Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)

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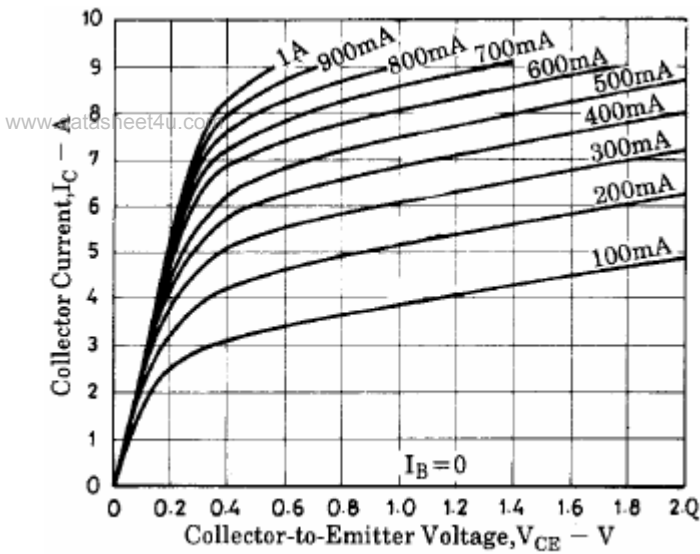


Fig.3 Static Characteristic

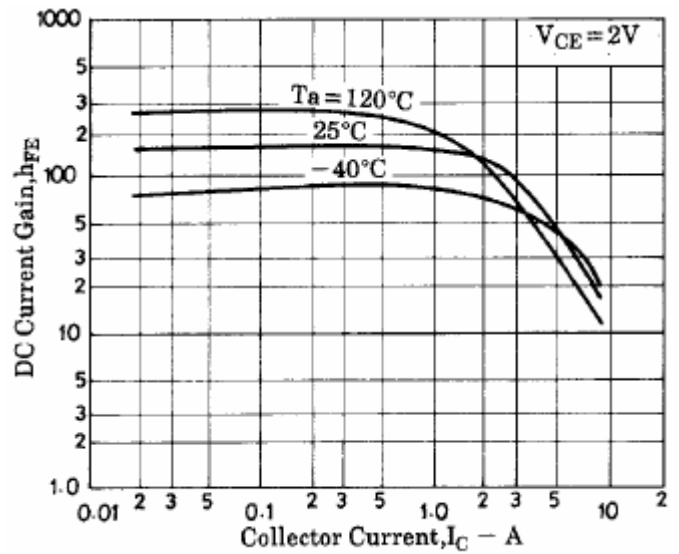


Fig.4 DC current Gain

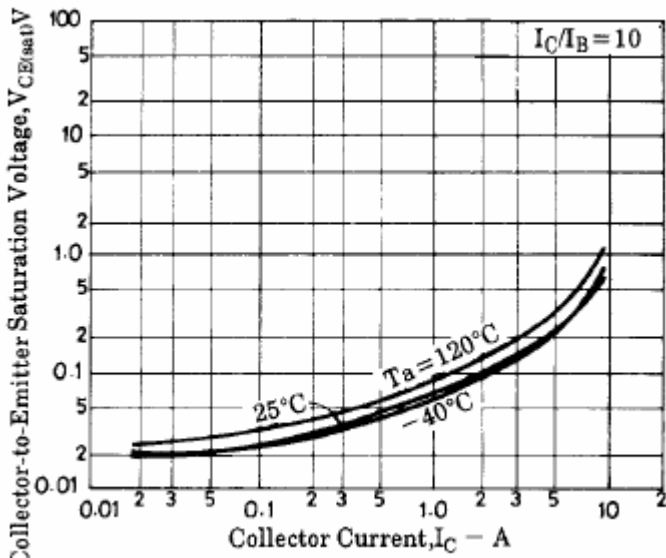


Fig.5 Collector-Emmitter Saturation Voltage

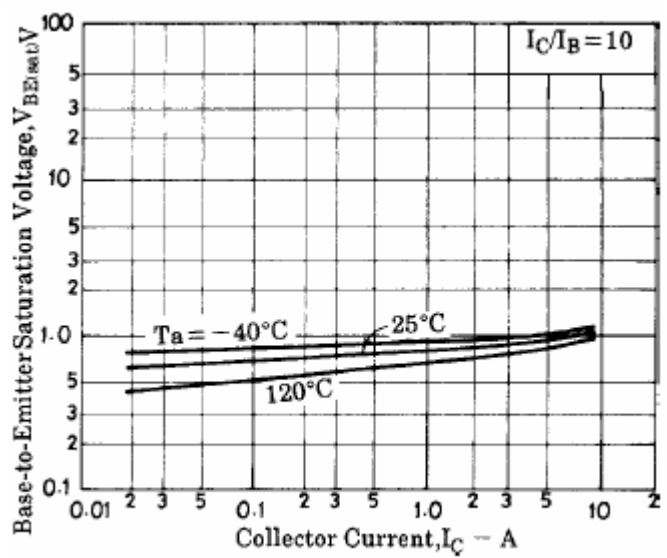


Fig.6 Base-Emmitter Saturation Voltage

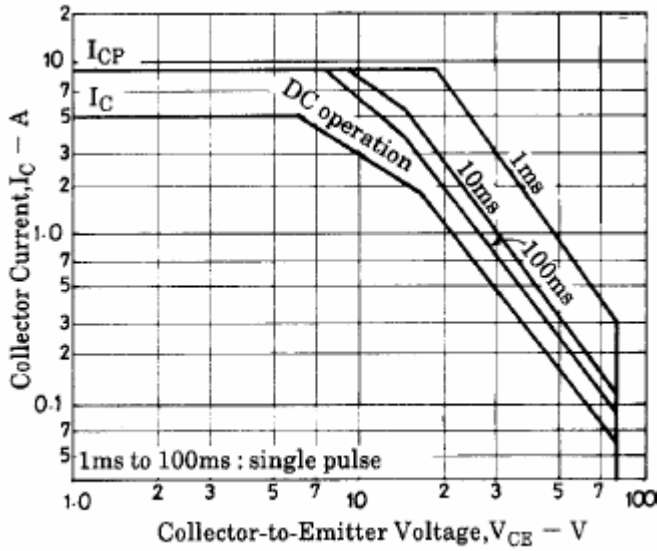


Fig.7 Safe Operating Area