

Silicon PNP Power Transistors

2SA1600

DESCRIPTION

- With ITO-220 package
- Switching power transistor
- Low collector saturation voltage

PINNING

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

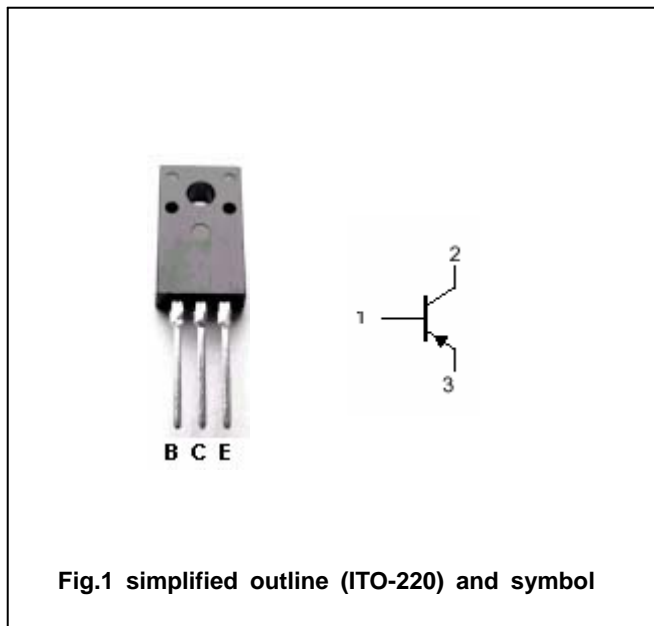


Fig.1 simplified outline (ITO-220) and symbol

Absolute maximum ratings(Ta=25)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|--------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | -60 | V |
| V _{CEO} | Collector-emitter voltage | Open base | -40 | V |
| V _{EBO} | Emitter-base voltage | Open collector | -7 | V |
| I _C | Collector current | | -12 | A |
| I _{CM} | Collector current-Peak | | -24 | A |
| I _B | Base current | | -2 | A |
| I _{BM} | Base current-Peak | | -3 | A |
| P _T | Total power dissipation | T _C =25 | 30 | W |
| T _j | Junction temperature | | 150 | |
| T _{stg} | Storage temperature | | -55~150 | |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------------|----------------------------------|------|------|
| R _{th j-c} | Thermal resistance junction case | 4.16 | /W |

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CHARACTERISTICS

T_j=25 unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|---|-----|------|------|------|
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | I _C =-0.1A ; I _B =0 | -40 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =-6A; I _B =-0.3A | | | -0.3 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =-6A; I _B =-0.3A | | | -1.2 | V |
| I _{CBO} | Collector cut-off current | At rated volatge | | | -0.1 | mA |
| I _{CEO} | | | | | | |
| I _{EBO} | Emitter cut-off current | At rated volatge | | | -0.1 | mA |
| h _{FE} | DC current gain | I _C =-6A ; V _{CE} =-2V | 70 | | | |
| f _T | Transition frequency | I _C =-1.2A ; V _{CE} =-10V | | 50 | | MHz |

Switching times

| | | | | | | |
|-----------------|--------------|--|--|--|-----|----|
| t _{on} | Turn-on time | I _C =-6A; I _{B1} =-I _{B2} =-0.6A , R _L =5 Ω ; V _{BB2} =-4V | | | 0.3 | μs |
| t _s | Storage time | | | | 1.5 | μs |
| t _f | Fall time | | | | 0.5 | μs |

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PACKAGE OUTLINE

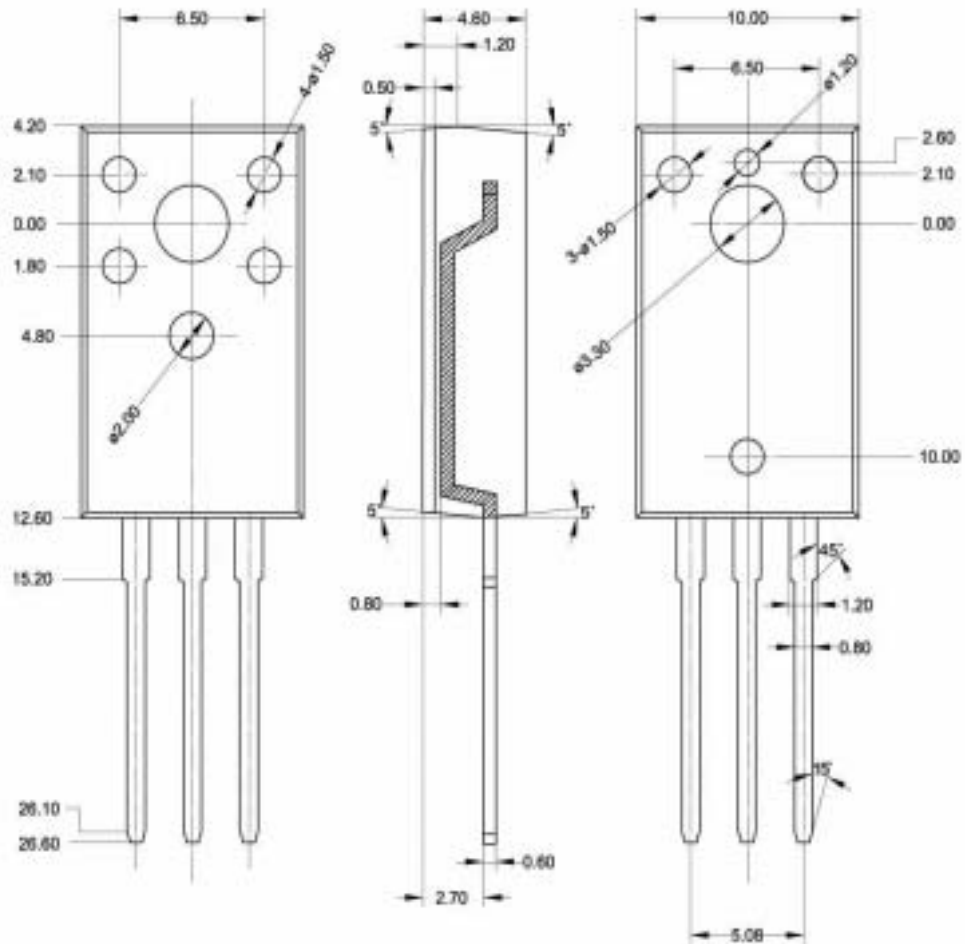


Fig.2 Outline dimensions (unindicated tolerance: ± 0.20 mm)