

Silicon NPN Power Transistors

2SD1897

DESCRIPTION

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- With TO-220Fa package
- Low collector saturation voltage
- High power dissipation: $P_C=30W@T_C=25^\circ$

APPLICATIONS

- For low frequency power amplifier, power driver and DC-DC converter applications

PINNING

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

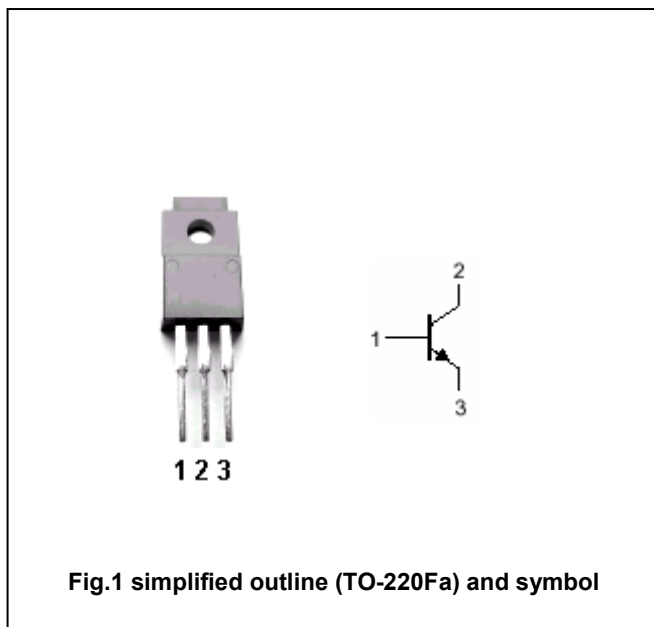


Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings($T_a=25^\circ$)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|----------------|---------|----------|
| V_{CBO} | Collector-base voltage | Open emitter | 100 | V |
| V_{CEO} | Collector-emitter voltage | Open base | 100 | V |
| V_{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I_C | Collector current | | 5 | A |
| I_{CM} | Collector current-Peak | | 10 | A |
| P_C | Collector power dissipation | $T_C=25^\circ$ | 30 | W |
| | | $T_a=25^\circ$ | 2 | |
| T_j | Junction temperature | | 150 | $^\circ$ |
| T_{stg} | Storage temperature | | -55~150 | $^\circ$ |

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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, I _B =0 | 100 | | | V |
| V _{(BR)CBO} | Collector-base breakdown voltage | I _C =50μA, I _E =0 | 100 | | | V |
| V _{(BR)EBO} | Emitter-base breakdown voltage | I _E =50μA, I _C =0 | 5 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =3A; I _B =0.3A | | | 1.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =3A; I _B =0.3A | | | 1.5 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =100V, I _E =0 | | | 10 | μA |
| I _{EBO} | Emitter cut-off current | V _{EB} =5V; I _C =0 | | | 10 | μA |
| h _{FE} | DC current gain | I _C =1A; V _{CE} =5V | 60 | | 320 | |
| f _T | Transition frequency | I _E =-0.5A; V _{CE} =5V; f=5MHz | | 8 | | MHz |
| C _{ob} | Output capacitance | I _E =0; V _{CB} =10V, f=1MHz | | 100 | | pF |

◆ h_{FE} Classifications

| D | E | F |
|--------|---------|---------|
| 60-120 | 100-200 | 160-320 |

PACKAGE OUTLINE

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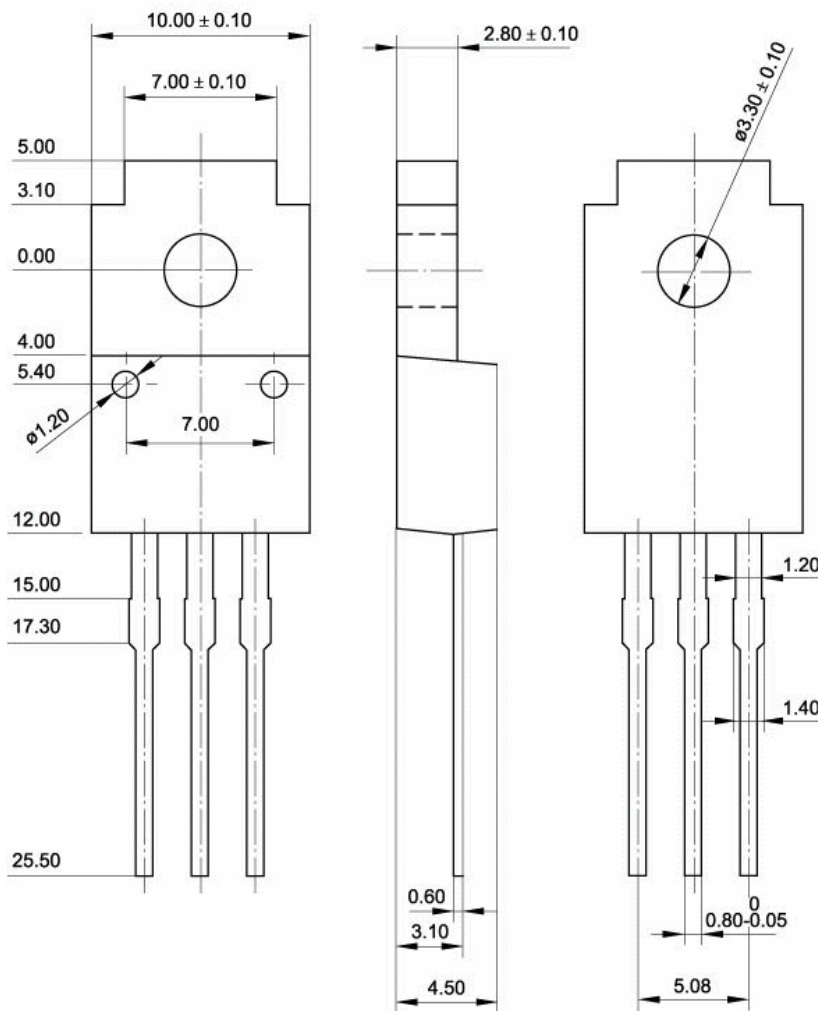


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)