

Silicon NPN Power Transistors

2SD717

DESCRIPTION

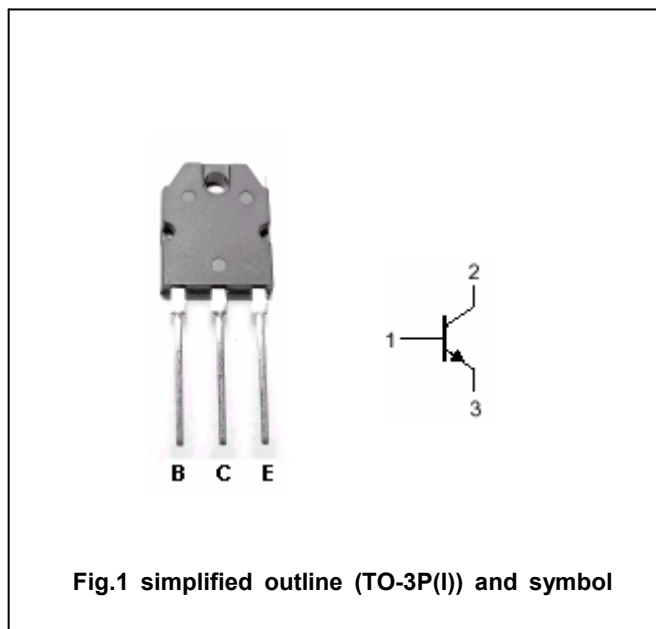
- With TO-3P(I) package
- Low collector saturation voltage
- High collector power dissipation

APPLICATIONS

- High power switching applications
- DC-DC converter and DC-AC inverter applications

PINNING

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

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

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|---------------------------|----------------|---------|----------|
| V_{CBO} | Collector-base voltage | Open emitter | 70 | V |
| V_{CEO} | Collector-emitter voltage | Open base | 50 | V |
| V_{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I_C | Collector current | | 10 | A |
| I_B | Base current | | 2 | A |
| P_T | Total power dissipation | $T_C=25^\circ$ | 80 | W |
| T_j | Junction temperature | | 150 | $^\circ$ |
| T_{stg} | Storage temperature | | -55~150 | $^\circ$ |

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CHARACTERISTICS

Tj=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---------------|--------------------------------------|-----------------------------|-----|------|-----|---------|
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage | $I_C=50mA, I_B=0$ | 50 | | | V |
| V_{CEsat} | Collector-emitter saturation voltage | $I_C=6A; I_B=0.3A$ | | | 0.4 | V |
| V_{BEsat} | Base-emitter saturation voltage | $I_C=6A; I_B=0.3A$ | | | 1.2 | V |
| I_{CBO} | Collector cut-off current | $V_{CB}=70V; I_E=0$ | | | 10 | μA |
| I_{EBO} | Emitter cut-off current | $V_{EB}=5V; I_C=0$ | | | 10 | μA |
| h_{FE-1} | DC current gain | $I_C=1A; V_{CE}=1V$ | 70 | | 240 | |
| h_{FE-2} | DC current gain | $I_C=6A; V_{CE}=1V$ | 30 | | | |
| f_T | Transition frequency | $I_C=1A; V_{CE}=4V$ | | 10 | | MHz |
| C_{ob} | Output capacitance | $I_E=0; V_{CB}=10V; f=1MHz$ | | 350 | | pF |

Switching times

| | | | | | | |
|----------|--------------|--|--|-----|--|---------|
| t_{on} | Turn-on time | $I_{B1}=-I_{B2}=0.3A; R_L=5\Omega; V_{CC}=30V$ | | 0.3 | | μs |
| t_s | Storage time | | | 2.5 | | μs |
| t_f | Fall time | | | 0.4 | | μs |

◆ h_{FE-1} Classifications

| O | Y |
|--------|---------|
| 70-140 | 120-240 |

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PACKAGE OUTLINE

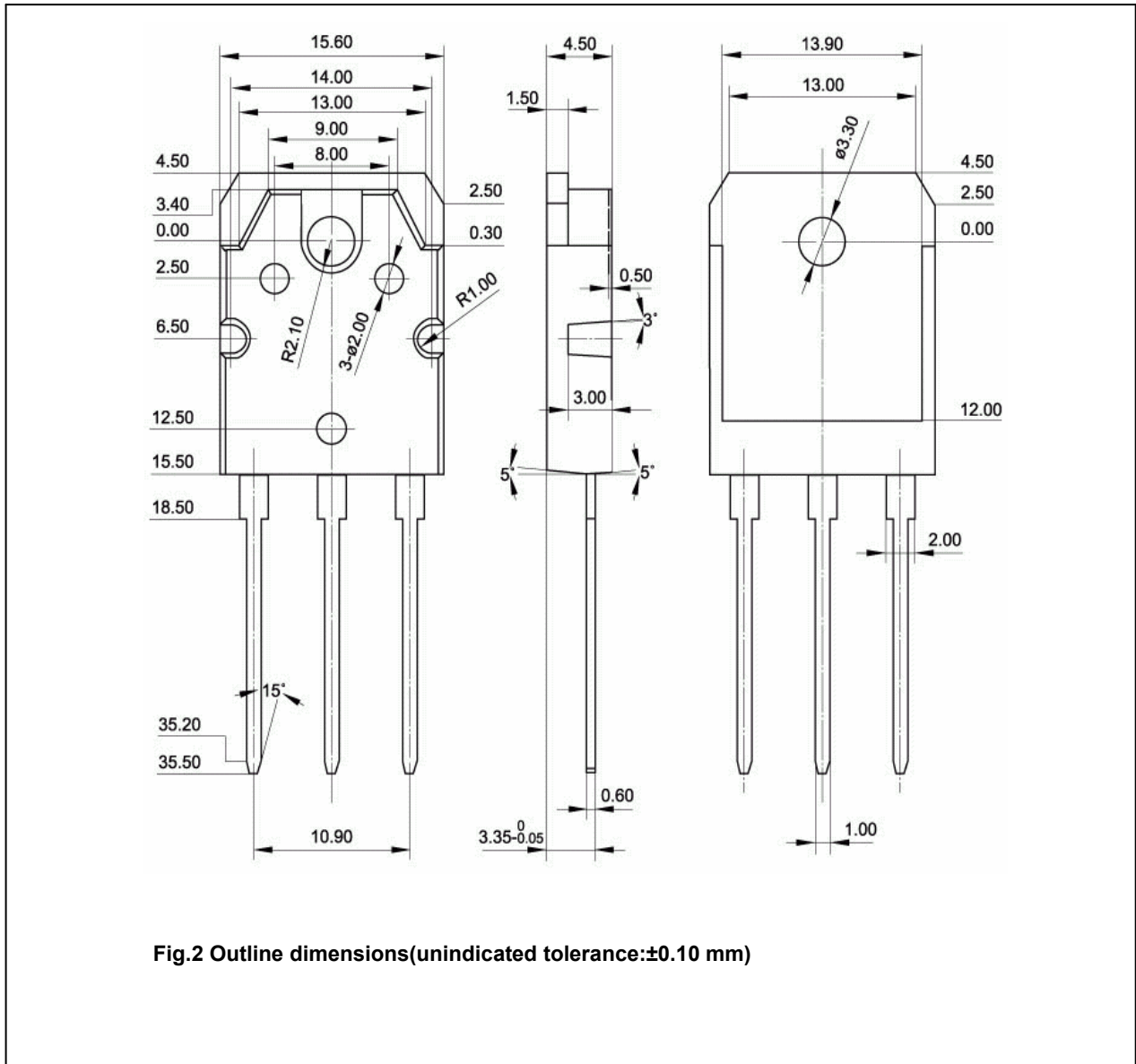


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)