

Silicon NPN Power Transistors

BUX80

DESCRIPTION

- With TO-3 package
- High voltage
- Fast switching speed

APPLICATIONS

- Switching regulators
- Motor control
- High frequency and efficiency converters

PINNING(see fig.2)

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

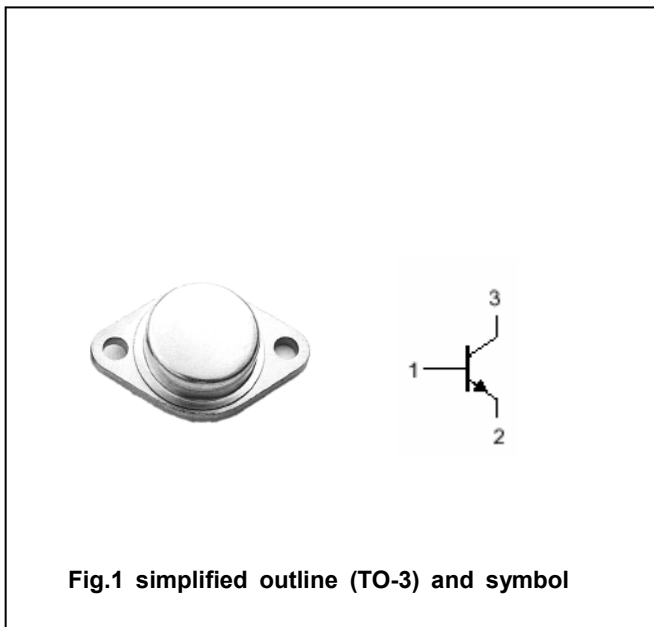


Fig.1 simplified outline (TO-3) and symbol

ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | 800 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 400 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 10 | V |
| I _C | Collector current | | 10 | A |
| I _{CM} | Collector current-peak | | 15 | A |
| I _B | Base current | | 5 | A |
| P _T | Total power dissipation | T _C =25°C | 100 | W |
| T _j | Junction temperature | | 150 | °C |
| T _{stg} | Storage temperature | | -65~150 | °C |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------------|-------------------------------------|-----|------|
| R _{th j-c} | Thermal resistance junction to case | 1.1 | °C/W |

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|---|-----|------|------------|------|
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | I _C =0.1A; I _B =0 | 400 | | | V |
| V _{CEsat-1} | Collector-emitter saturation voltage | I _C =5 A; I _B =1 A | | | 1.5 | V |
| V _{CEsat-2} | Collector-emitter saturation voltage | I _C =8 A; I _B =2.5 A | | | 3.0 | V |
| V _{BEsat-1} | Base-emitter saturation voltage | I _C =5 A; I _B =1 A | | | 1.4 | V |
| V _{BEsat-2} | Base-emitter saturation voltage | I _C =8 A; I _B =2.5 A | | | 1.8 | V |
| I _{CES} | Collector cut-off current | V _{CE} =800V; V _{BE} =0 T _C =125 °C | | | 1.0 3.0 | mA |
| I _{EBO} | Emitter cut-off current | V _{EB} =10V; I _C =0 | | | 10 | mA |
| h _{FE} | DC current gain | I _C =1.2A ; V _{CE} =5V | | 30 | | |

Switching times

| | | | | | | |
|-----------------|--------------|--|--|--|-----|----|
| t _{on} | Turn-on time | I _C =5A ; I _{B1} =1A; I _{B2} =-2A V _{CC} =-250V | | | 0.5 | μs |
| t _s | Storage time | | | | 3.5 | μs |
| t _f | Fall time | | | | 0.5 | μs |

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PACKAGE OUTLINE

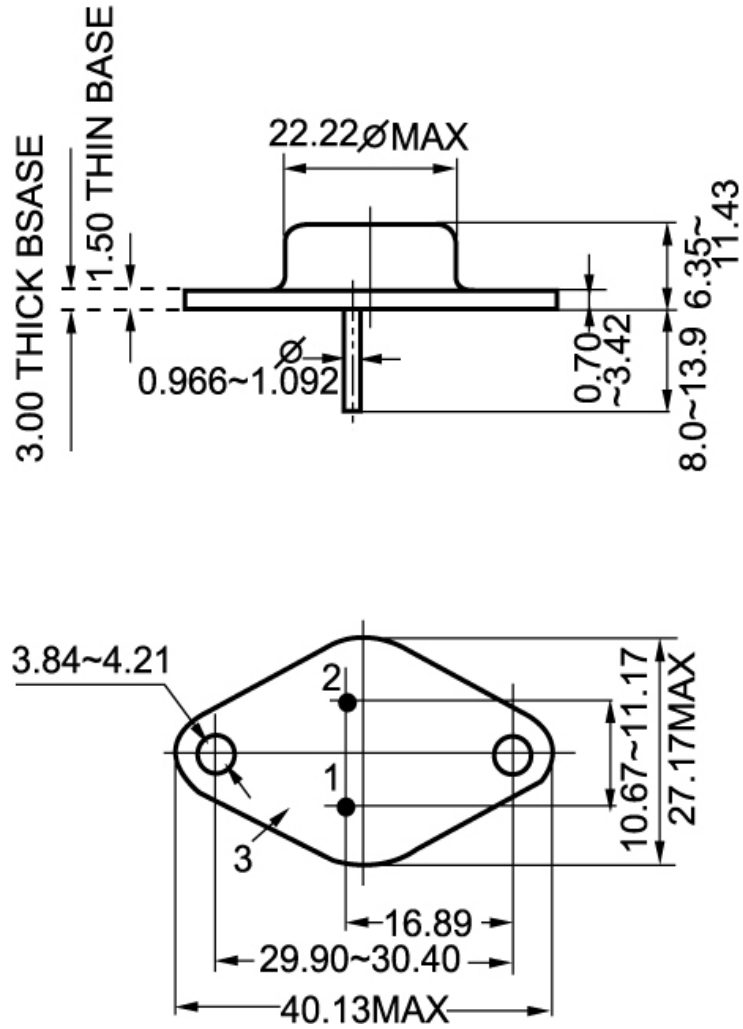


Fig.2 Outline dimensions