

Silicon NPN Power Transistors

BUX84F BUX85F

DESCRIPTION

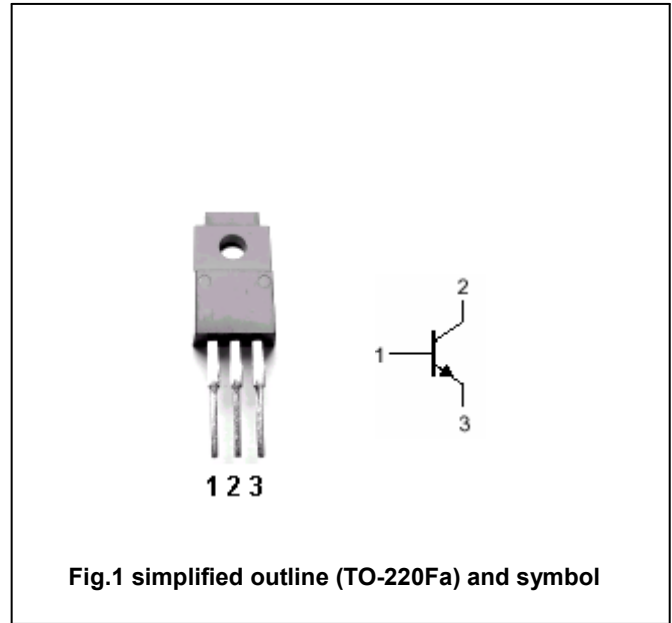
- With TO-220Fa package
- High voltage ,high speed

APPLICATIONS

- Converters
- Inverters
- Switching regulators
- Motor controls systems

PINNING

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



Absolute maximum ratings (Ta=25℃)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|---------------------|---------|------|
| V _{CBO} | Collector-base voltage | BUX84F | 800 | V |
| | | BUX85F | 1000 | |
| V _{CEO} | Collector-emitter voltage | BUX84F | 400 | V |
| | | BUX85F | 450 | |
| V _{EBO} | Emitter-base voltage | Open collector | 10 | V |
| I _C | Collector current | | 2 | A |
| I _{CM} | Collector current-peak | | 3 | A |
| I _B | Base current | | 0.75 | A |
| I _{BM} | Base current-peak | | 1 | A |
| P _{tot} | Total power dissipation | T _C =25℃ | 18 | W |
| T _j | Junction temperature | | 150 | ℃ |
| T _{stg} | Storage temperature | | -65~150 | ℃ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------------|--|-----|------|
| R _{th j-a} | Thermal resistance junction to ambient | 55 | K/W |

Silicon NPN Power Transistors

BUX84F BUX85F

CHARACTERISTICS

T_j=25 °C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT | |
|-----------------------|--------------------------------------|---|--|---|-----|------|-----|
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | BUX84F | I _C =100mA ; I _B =0; L=25mH | 400 | | | V |
| | | BUX85F | | 450 | | | |
| V _{CEsat-1} | Collector-emitter saturation voltage | I _C =0.3A ; I _B =0.03A | | | 0.8 | V | |
| V _{CEsat-2} | Collector-emitter saturation voltage | I _C =1A ; I _B =0.2A | | | 1 | V | |
| V _{BEsat} | Base-emitter saturation voltage | I _C =1A ; I _B =0.2A | | | 1.1 | V | |
| I _{CES} | Collector cut-off current | BUX84F | V _{CEs} =800V; V _{BE} =0 T _j =125 °C | | 0.2 | mA | |
| | | BUX85F | | V _{CEs} =1000V; V _{BE} =0 T _j =125 °C | | | 0.2 |
| I _{EBO} | Emitter cut-off current | V _{EB} =5V; I _C =0 | | | 1.0 | mA | |
| h _{FE-1} | DC current gain | I _C =0.1A ; V _{CE} =5V | 20 | | 100 | | |
| h _{FE-2} | DC current gain | I _C =0.5A ; V _{CE} =5V | 15 | | | | |
| f _T | Transition frequency | I _C =0.2A ; V _{CE} =10V; f=1.0MHz | | 20 | | MHz | |

Switching times

| | | | | | | |
|-----------------|--------------|---|--|-----|-----|----|
| t _{on} | Turn-on time | I _C =1A ; V _{CC} =250V I _{B1} =0.2A; I _{B2} =-0.4A | | 0.2 | 0.5 | μs |
| t _s | Storage time | | | 2 | 3.5 | μs |
| t _f | Fall time | | | 0.4 | | μs |

Silicon NPN Power Transistors

BUX84F BUX85F

PACKAGE OUTLINE

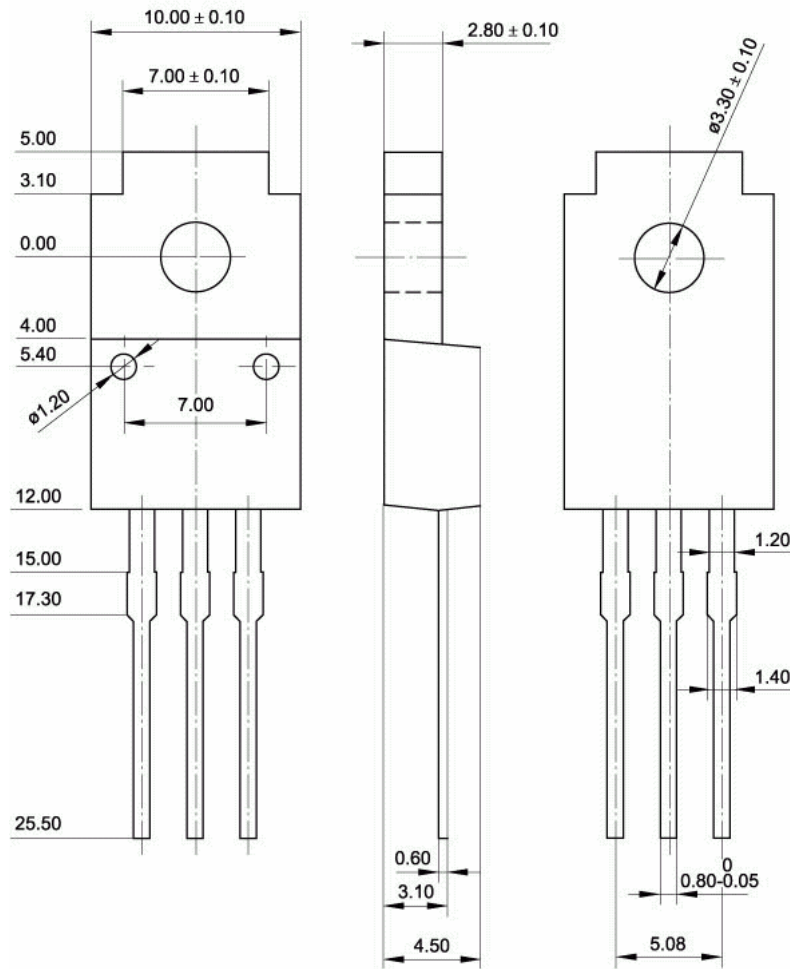


Fig.2 Outline dimensions (unindicated tolerance: $\pm 0.10\text{mm}$)