

isc Silicon NPN Power Transistor
BUX84F
DESCRIPTION

- Collector-Emitter Sustaining Voltage:
: $V_{CEO(SUS)} = 400V(\text{Min.})$
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

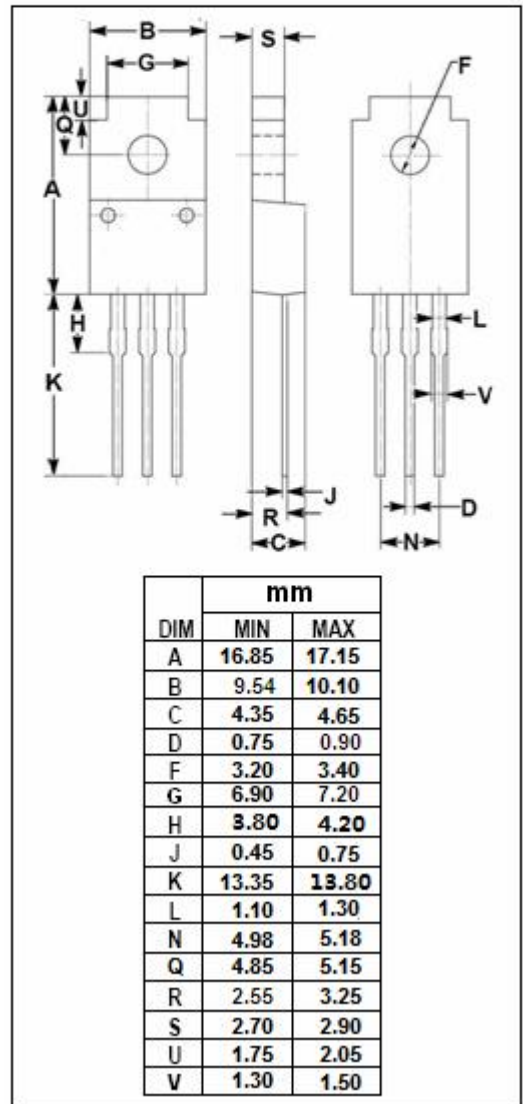
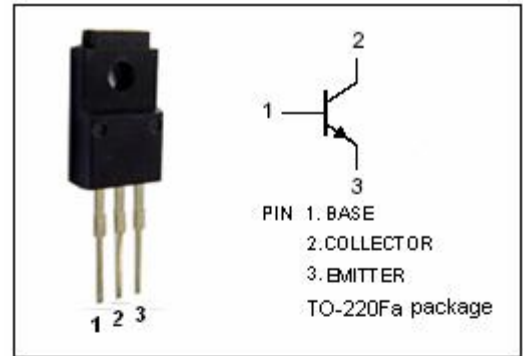
- Designed for use in high-voltage, high-speed, power switching regulators, converters, inverters, motor control system.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CES} | Collector-Emitter Voltage | 800 | V |
| V_{CEO} | Collector-Emitter Voltage | 400 | V |
| V_{EBO} | Emitter-Base Voltage | 10 | V |
| I_C | Collector Current-Continuous | 2 | A |
| I_{CM} | Collector Current-Peak | 3 | A |
| I_B | Base Current | 0.75 | A |
| I_{BM} | Base Current-Peak | 1 | A |
| P_C | Collector Power Dissipation @ $T_c = 25^\circ\text{C}$ | 18 | W |
| T_j | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -65~150 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|-----|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 7.2 | $^\circ\text{C/W}$ |



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ELECTRICAL CHARACTERISTICS

T_c=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 | 400 | | | V |
| V _{CE(sat)-1} | Collector-Emitter Saturation Voltage | I _C = 0.3A; I _B = 0.03A | | | 0.8 | V |
| V _{CE(sat)-2} | Collector-Emitter Saturation Voltage | I _C = 1A; I _B = 0.2A | | | 1.0 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C = 1A; I _B = 0.2A | | | 1.1 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = 800V; I _E = 0 V _{CB} = 800V; I _E = 0; T _C =125°C | | | 0.2 1.5 | mA |
| I _{EBO} | Emitter Cutoff 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 | Current-Gain—Bandwidth Product | I _C = 0.2A; V _{CE} = 10V, f _{test} = 1MHz | | 20 | | MHz |

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