

isc Silicon NPN Power Transistors

BUY70B

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 325V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 5.0V(\text{Max.}) @ I_C = 4A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

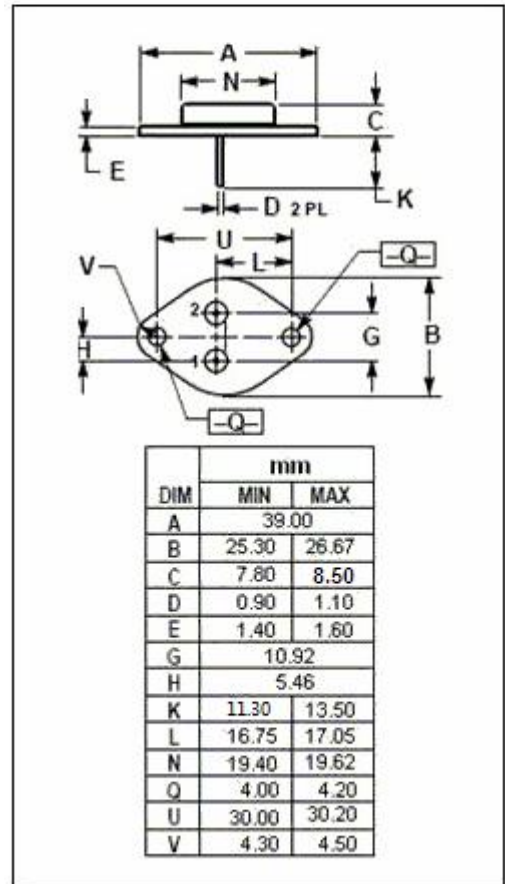
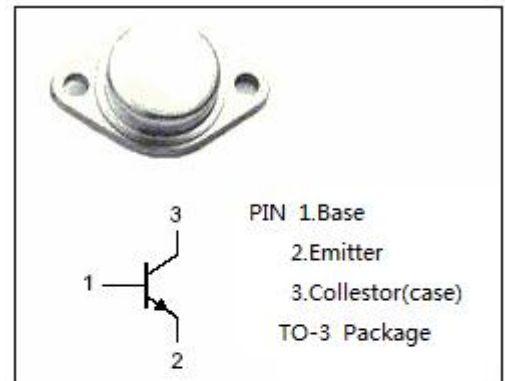
- Designed for switching mode power supplies, inverters, and CRT scanning systems.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 800 | V |
| V_{CEO} | Collector-Emitter Voltage | 325 | V |
| V_{EBO} | Emitter-Base Voltage | 8 | V |
| I_C | Collector Current-Continuous | 10 | A |
| I_{CM} | Collector Current-peak | 15 | A |
| I_B | Base Current-Continuous | 3.0 | A |
| P_C | Collector Power Dissipation @ $T_C=25^\circ\text{C}$ | 75 | W |
| T_j | Junction Temperature | 200 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -65~200 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|-----|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 2.3 | $^\circ\text{C/W}$ |



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|--|-----|------|-----|------|
| V _{CEO(SUS)} | Collector-Emitter Sustaining Voltage | I _C = 50mA; I _B = 0 | 325 | | | V |
| V _{(BR)CBO} | Collector-Base Breakdown Voltage | I _C = 1mA; I _E = 0 | 800 | | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E = 10mA; I _C = 0 | 8 | | | V |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = 4A; I _B = 0.8A | | | 5.0 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C = 4A; I _B = 0.8A | | | 1.5 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = 800V; I _E = 0 | | | 1.0 | mA |
| h _{FE} | DC Current Gain | I _C = 1A; V _{CE} = 10V | 15 | | | |
| f _T | Current-Gain—Bandwidth Product | I _C = 0.5A; V _{CE} = 10V | | 6 | | MHz |
| C _{OB} | Collector Output Capacitance | I _E = 0; V _{CB} = 20V | | | 150 | pF |
| t _f | Fall Time | I _C = 4A; I _{B1} = -I _{B2} = 0.8A; V _{CC} = 40V | | | 1.0 | μs |

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