

isc Silicon NPN Power Transistor
BD117
DESCRIPTION

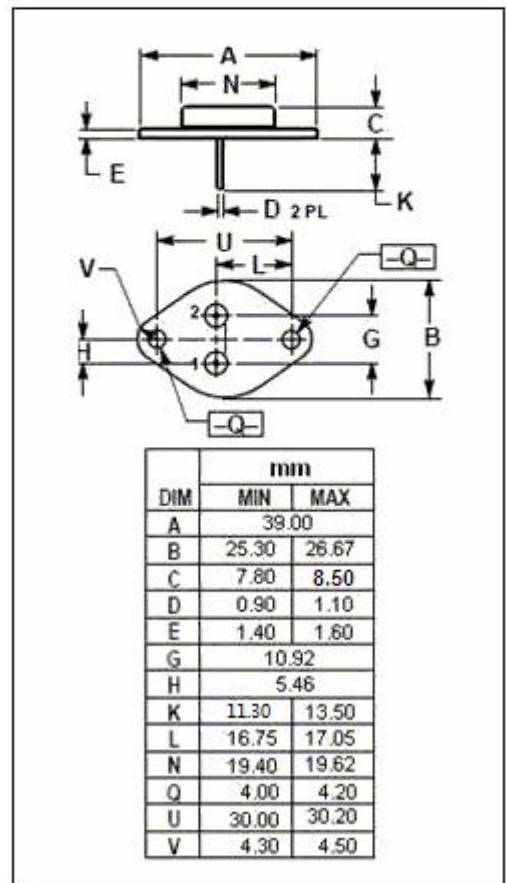
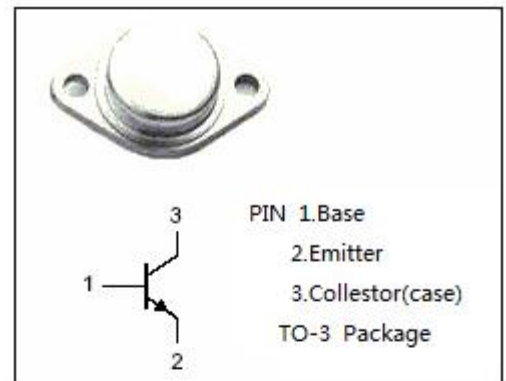
- Excellent Safe Operating Area
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 60V(\text{Min})$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 0.6V(\text{Max}) @ I_C = 3A$
- Good Linearity of h_{FE}
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.

APPLICATIONS

- Designed for general-purpose switching and amplifier applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 100 | V |
| V_{CEO} | Collector-Emitter Voltage | 60 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current-Continuous | 5 | A |
| I_{CM} | Collector Current-Peak | 8 | A |
| I_B | Base Current-Continuous | 2 | A |
| P_C | Collector Power Dissipation@ $T_c = 50^\circ\text{C}$ | 30 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -65~150 | $^\circ\text{C}$ |



isc Silicon NPN Power Transistors**BD117****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---------------|--------------------------------------|-----------------------------------|-----|------|-----|------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C=30\text{mA}; I_B=0$ | 60 | | | V |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage | $I_C=1\text{mA}; I_E=0$ | 100 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=3\text{A}; I_B=0.3\text{A}$ | | | 0.6 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=3\text{A}; I_B=0.3\text{A}$ | | | 1.2 | V |
| I_{CES} | Collector Cutoff Current | $V_{CE}=100\text{V}; V_{BE}=0$ | | | 0.1 | mA |
| I_{CEO} | Collector Cutoff Current | $V_{CE}=60\text{V}; I_B=0$ | | | 0.5 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=5\text{V}; I_C=0$ | | | 0.1 | mA |
| h_{FE-1} | DC Current Gain | $I_C=1\text{A}; V_{CE}=5\text{V}$ | 30 | | 200 | |
| h_{FE-2} | DC Current Gain | $I_C=3\text{A}; V_{CE}=5\text{V}$ | 20 | | | |

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