

isc Silicon NPN Power Transistor
BD245D
DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
: $h_{FE} > 40 @ I_C = 1A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1V(\text{Max}) @ I_C = 3A$
- Designed for Complementary Use with the BD246D
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

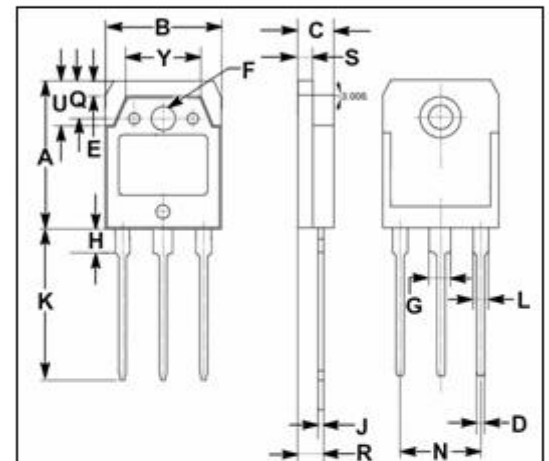
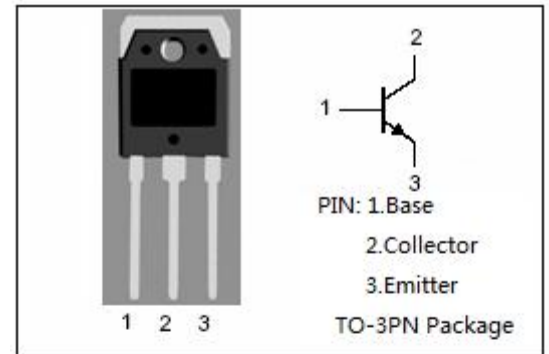
- Designed for general-purpose switching and amplifier applications.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 160 | V |
| V_{CEO} | Collector-Emitter Voltage | 120 | V |
| V_{EBO} | Emitter-base Voltage | 5 | V |
| I_C | Collector Current-Continuous | 10 | A |
| I_B | Base Current | 7 | A |
| P_C | Collector Power Dissipation@ $T_c=25^\circ\text{C}$ | 80 | W |
| T_j | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -65~150 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------|---|-------|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.56 | $^\circ\text{C/W}$ |
| $R_{th\ j-a}$ | Thermal Resistance, Junction to Ambient | 42 | $^\circ\text{C/W}$ |



| DIM | mm | |
|-----|-------|-------|
| | MIN | MAX |
| A | 19.60 | 20.30 |
| B | 15.50 | 15.70 |
| C | 4.70 | 4.90 |
| D | 0.90 | 1.10 |
| E | 1.90 | 2.10 |
| F | 3.40 | 3.60 |
| G | 2.90 | 3.20 |
| H | 3.20 | 3.40 |
| J | 0.595 | 0.605 |
| K | 19.80 | 20.70 |
| L | 1.90 | 2.20 |
| N | 10.89 | 10.91 |
| Q | 4.90 | 5.10 |
| R | 3.35 | 3.45 |
| S | 1.995 | 2.100 |
| U | 5.90 | 6.20 |
| Y | 9.90 | 10.10 |

isc Silicon NPN Power Transistors**BD245D****ELECTRICAL CHARACTERISTICS**T_C=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|------------------------|--------------------------------------|--|-----|-----|------|
| V _{CE0(SUS)} | Collector-Emitter Sustaining Voltage | I _C = 30mA ; I _B = 0 | 120 | | V |
| V _{CE(sat)-1} | Collector-Emitter Saturation Voltage | I _C = 3A ; I _B = 0.3A | | 1.0 | V |
| V _{CE(sat)-2} | Collector-Emitter Saturation Voltage | I _C = 10A ; I _B = 2.5A | | 4.0 | V |
| V _{BE(on)-1} | Base-Emitter On Voltage | I _C = 3A ; V _{CE} = 4V | | 1.6 | V |
| V _{BE(on)-2} | Base-Emitter On Voltage | I _C = 10A ; V _{CE} = 4V | | 3.0 | V |
| I _{CEO} | Collector Cutoff Current | V _{CE} = 120V; I _B =0 | | 0.7 | mA |
| I _{CBO} | Collector Cutoff Current | V _{CB} = 160V; I _E =0 | | 0.4 | mA |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 5V; I _C = 0 | | 1.0 | mA |
| h _{FE-1} | DC Current Gain | I _C = 1A ; V _{CE} = 4V | 40 | | |
| h _{FE-2} | DC Current Gain | I _C = 3A ; V _{CE} = 4V | 20 | | |
| h _{FE-3} | DC Current Gain | I _C = 10A ; V _{CE} = 4V | 4 | | |

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