# Silicon NPN Power Transistors BDX67



## DESCRIPTION

·With TO-3 package
·High current capability
·DARLINGTON

## APPLICATIONS

·Designed for power amplification and switching application.

**PINNING (See Fig.2)**

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

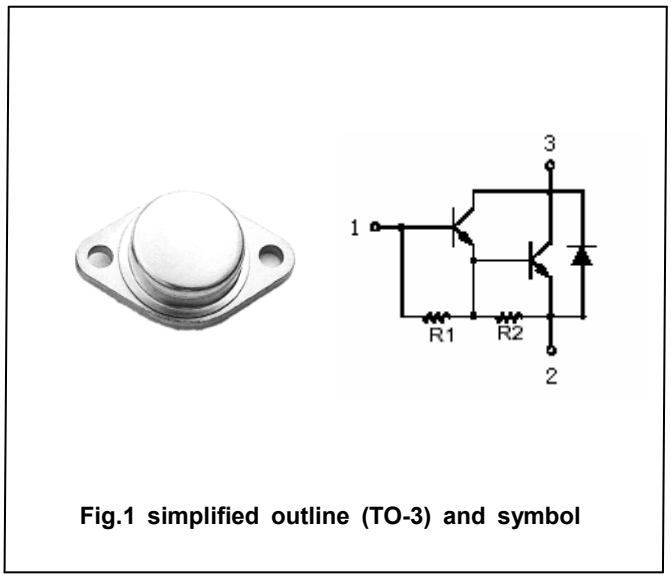


**Fig.1 simplified outline (TO-3) and symbol**

## Absolute maximum ratings(Ta=25□)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|
| $V_{CBO}$ | Collector-base voltage | Open emitter | 80 | V |
| $V_{CEO}$ | Collector-emitter voltage | Open base | 60 | V |
| $V_{EBO}$ | Emitter-base voltage | Open collector | 5 | V |
| $I_C$ | Collector current | | 16 | A |
| $I_{CM}$ | Collector current(peak) | | 20 | A |
| $I_B$ | Base current | | 0.25 | A |
| $P_T$ | Total power dissipation | $T_C$=25□ | 117 | W |
| $T_j$ | Junction temperature | | 150 | □ |
| $T_{stg}$ | Storage temperature | | -55~200 | □ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal resistance from junction to case | 1.17 | □/W |

## CHARACTERISTICS



**Tj=25□ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-emitter sustaining voltage | $I_C$=0.1A ; $I_B$=0;L=25mH | 60 | | | V |
| $V_{CEsat}$ | Collector-emitter saturation voltage | $I_C$=10A ;$I_B$=0.04A | | | 2 | V |
| $I_{CBO}$ | Collector cut-off current | $V_{CB}$=40V; $I_E$=0<br>$T_C$=150□ | | | 1<br>5 | mA |
| $I_{CEO}$ | Collector cut-off current | $V_{CE}$=30V; $I_B$=0 | | | 3 | mA |
| $I_{EBO}$ | Emitter cut-off current | $V_{EB}$=5V; $I_C$=0 | | | 3 | mA |

Switching times

| | | | | | | |
|---|---|---|---|---|---|---|
| $t_{on}$ | Turn-on time | $I_C$=10A ;<br>$I_{B1}$=-$I_{B2}$=0.04A<br>$V_{CC}$=12V ; | | 1.0 | | μs |
| $t_{off}$ | Turn-off time | | | 3.5 | | μs |

**PACKAGE OUTLINE**



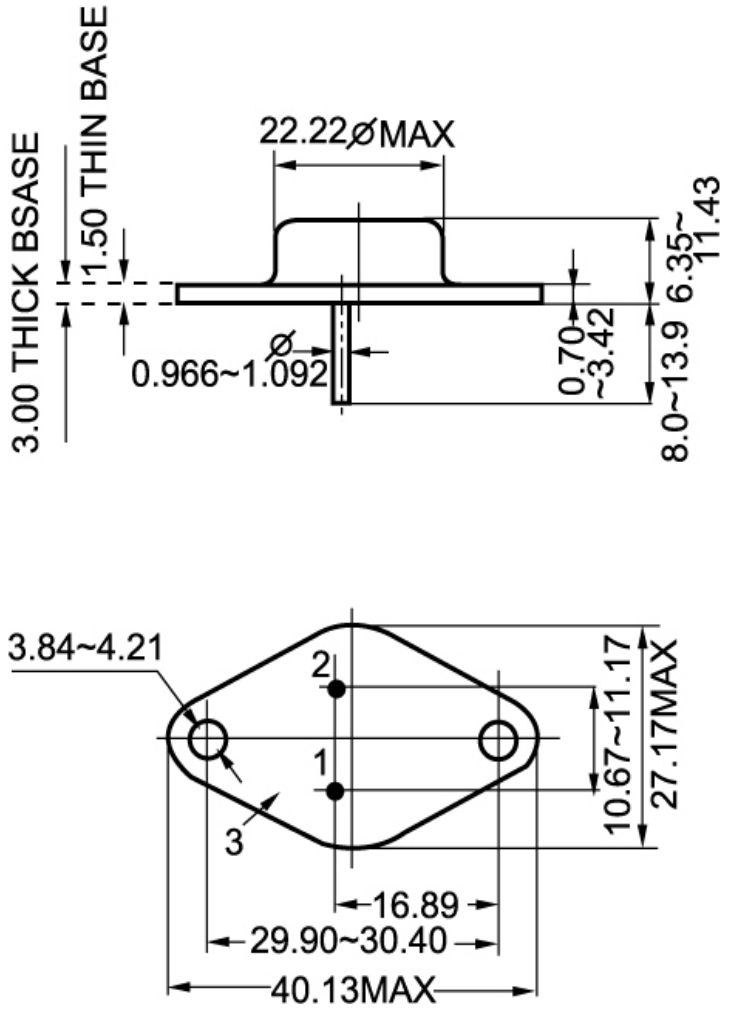


**Fig.2 Outline dimensions**