

Silicon PNP Power Transistor

BDX92/94/96

DESCRIPTION

- Collector Current $I_C = -10A$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -60V(\text{Min})$ - BDX92
 -80V(Min)- BDX94
 -100V(Min)- BDX96
- Complement to Type BDX91/93/95

APPLICATIONS

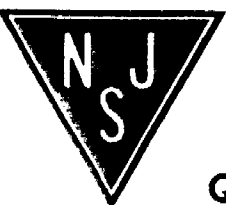
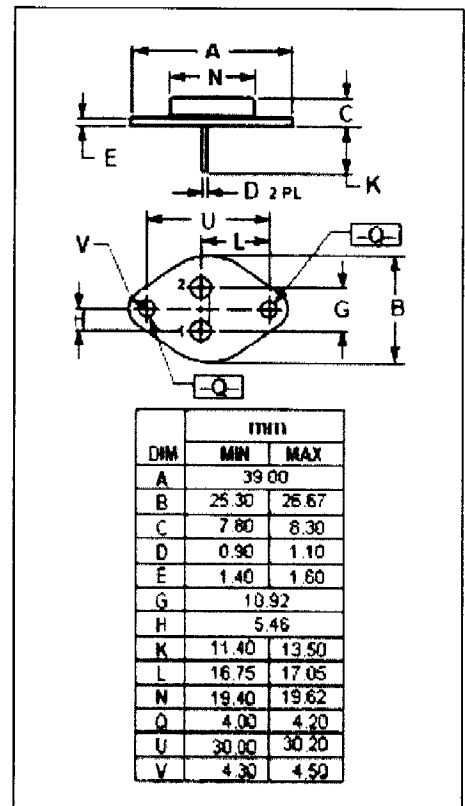
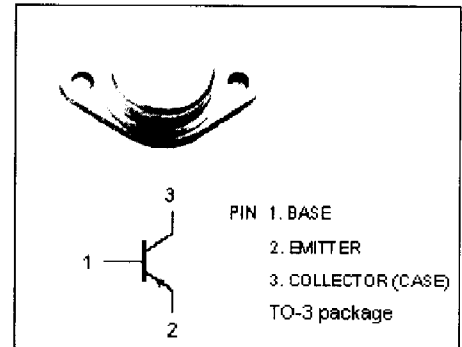
- Designed for use in general purpose power amplifier and switching applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|---------|------------|
| V_{CBO} | Collector-Base Voltage | BDX92 | -60 |
| | | BDX94 | -80 |
| | | BDX96 | -100 |
| V_{CEO} | Collector-Emitter Voltage | BDX92 | -60 |
| | | BDX94 | -80 |
| | | BDX96 | -100 |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current-Continuous | -10 | A |
| I_{CM} | Collector Current-Peak | -15 | A |
| P_C | Collector Power Dissipation @ $T_C=25^\circ C$ | 90 | W |
| T_J | Junction Temperature | 200 | $^\circ C$ |
| T_{stg} | Storage Temperature Range | -65~200 | $^\circ C$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|------|--------------|
| $R_{th(j-c)}$ | Thermal Resistance, Junction to Case | 1.94 | $^\circ C/W$ |



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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 | BDX92 | $I_C = -30\text{mA}; I_B = 0$ | | | V |
| | | BDX94 | | | | |
| | | BDX96 | | | | |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C = -3\text{A}; I_B = -0.3\text{A}$ | | | -0.8 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C = -5\text{A}; I_B = -1\text{A}$ | | | -1.0 | V |
| $V_{BE(sat)-1}$ | Base-Emitter Saturation Voltage | $I_C = -3\text{A}; I_B = -0.3\text{A}$ | | | -1.5 | V |
| $V_{BE(sat)-2}$ | Base-Emitter Saturation Voltage | $I_C = -5\text{A}; I_B = -1\text{A}$ | | | -2.0 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C = -3\text{A}; V_{CE} = -2\text{V}$ | | | -1.4 | V |
| I_{CBO} | Collector Cutoff Current | BDX92 | $V_{CB} = -60\text{V}; I_E = 0$ $V_{CB} = -30\text{V}; I_E = 0; T_C = 150^\circ\text{C}$ | | | mA |
| | | BDX94 | | | | |
| | | BDX96 | | | | |
| I_{CEO} | Collector Cutoff Current | BDX92 | $V_{CE} = -60\text{V}; I_B = 0$ | | | mA |
| | | BDX94 | | | | |
| | | BDX96 | | | | |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = -5\text{V}; I_C = 0$ | | | -0.1 | mA |
| h_{FE-1} | DC Current Gain | $I_C = -3\text{A}; V_{CE} = -2\text{V}$ | 20 | | | |
| h_{FE-2} | DC Current Gain | $I_C = -5\text{A}; V_{CE} = -2\text{V}$ | 10 | | | |
| f_T | Current-Gain—Bandwidth Product | $I_C = -1\text{A}; V_{CE} = -10\text{V}$ | 4 | | | MHz |

Switching times

| | | | | | | |
|-----------|---------------|---|--|--|-----|---------------|
| t_{on} | Turn-on Time | $I_C = -3\text{A}; I_{B1} = -I_{B2} = -0.3\text{A}$ | | | 1.0 | μs |
| t_{off} | Turn-off Time | | | | 2.0 | μs |