

Silicon PNP Darlington Power Transistor

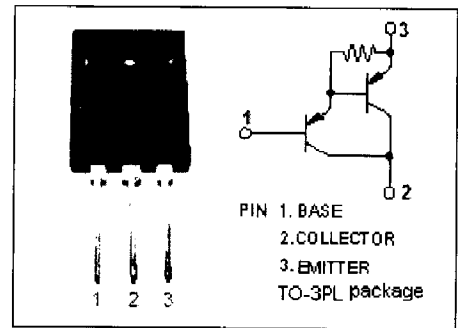
2SB1492

DESCRIPTION

- High DC Current Gain-
 : $h_{FE} = 5000(\text{Min}) @ I_C = -5A$
- Low-Collector Saturation Voltage-
 : $V_{CE(\text{sat})} = -2.5V(\text{Max.}) @ I_C = -5A$
- Complement to Type 2SD2254

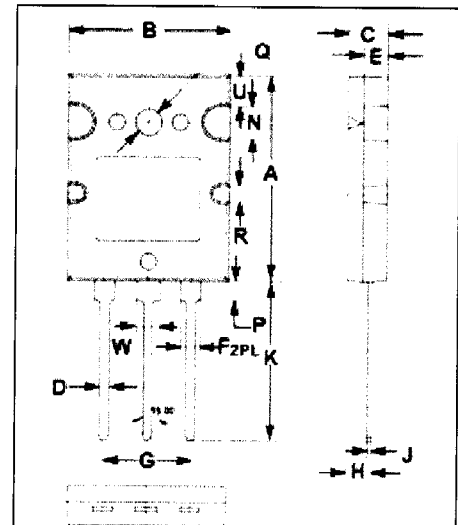
APPLICATIONS

- Designed for power amplifier applications.
- Optimum for 60W HiFi output applications.



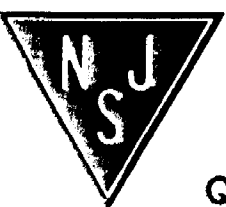
ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | -130 | V |
| V_{CEO} | Collector-Emitter Voltage | -110 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current-Continuous | -6 | A |
| I_{CM} | Collector Current-Peak | -10 | A |
| P_C | Collector Power Dissipation @ $T_C = 25^\circ\text{C}$ | 70 | W |
| | Collector Power Dissipation @ $T_a = 25^\circ\text{C}$ | 3.5 | |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ\text{C}$ |



| DIM | mm | |
|-----|-------|-------|
| | MIN | MAX |
| A | 25.50 | 26.50 |
| B | 19.80 | 20.20 |
| C | 4.50 | 5.50 |
| D | 0.90 | 1.10 |
| E | 2.80 | 3.20 |
| F | 2.40 | 2.60 |
| G | 10.80 | 11.00 |
| H | 3.10 | 3.30 |
| J | 0.50 | 0.70 |
| K | 20.00 | 21.00 |
| N | 3.90 | 4.10 |
| P | 2.40 | 2.60 |
| Q | 3.40 | 3.50 |
| R | 1.90 | 2.10 |
| U | 3.90 | 4.10 |
| W | 2.90 | 3.10 |

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



Silicon PNP Darlington Power Transistor

2SB1492

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 | $I_C = -30\text{mA}; I_B = 0$ | -110 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -5\text{A}; I_B = -5\text{mA}$ | | | -2.5 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C = -5\text{A}; I_B = -5\text{mA}$ | | | -3.0 | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB} = -130\text{V}; I_E = 0$ | | | -100 | μA |
| I_{CEO} | Collector Cutoff Current | $V_{CE} = -110\text{V}; I_B = 0$ | | | -100 | μA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = -5\text{V}; I_C = 0$ | | | -100 | μA |
| h_{FE-1} | DC Current Gain | $I_C = -1\text{A}; V_{CE} = -5\text{V}$ | 2000 | | | |
| h_{FE-2} | DC Current Gain | $I_C = -5\text{A}; V_{CE} = -5\text{V}$ | 5000 | | 30000 | |
| f_T | Current-Gain—Bandwidth Product | $I_C = -0.5\text{A}; V_{CE} = -10\text{V}$ | | 20 | | MHz |

Switching Times

| | | | | | | |
|-----------|--------------|---|--|-----|--|---------------|
| t_{on} | Turn-on Time | $I_C = -5\text{A}; I_{B1} = -I_{B2} = -5\text{mA}, V_{CC} = -50\text{V},$ | | 0.9 | | μs |
| t_{stg} | Storage Time | | | 2.5 | | μs |
| t_f | Fall Time | | | 1.7 | | μs |

◆ h_{FE-2} Classifications

| Q | P |
|------------|------------|
| 5000-15000 | 8000-30000 |