

**isc Silicon PNP Darlington Power Transistor**
**2SB1492**
**DESCRIPTION**

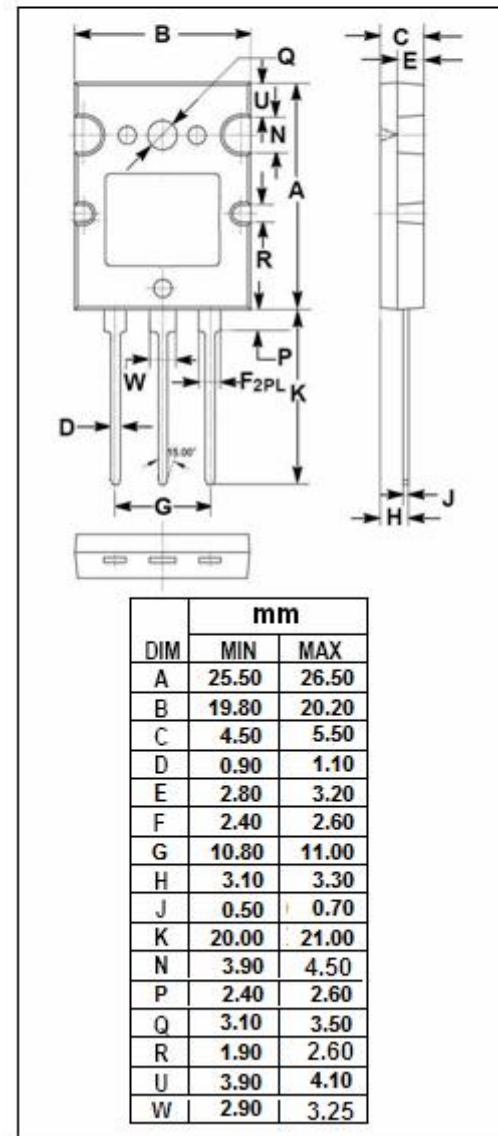
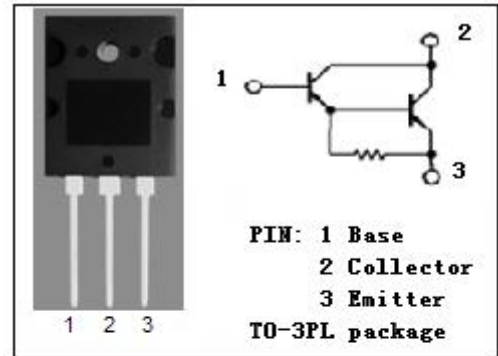
- High DC Current Gain-  
:  $h_{FE} = 5000(\text{Min}) @ I_C = -5A$
- Low-Collector Saturation Voltage-  
:  $V_{CE(\text{sat})} = -2.5V(\text{Max.}) @ I_C = -5A$
- Complement to Type 2SD2254
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**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<br>@ $T_C = 25^\circ\text{C}$ | 70      | W                |
|           | Collector Power Dissipation<br>@ $T_a = 25^\circ\text{C}$ | 3.5     |                  |
| $T_J$     | Junction Temperature                                      | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                                 | -55~150 | $^\circ\text{C}$ |



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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  | $I_C = -30\text{mA}; I_B = 0$              | -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  | $\mu\text{A}$ |
| $I_{CEO}$     | Collector Cutoff Current             | $V_{CE} = -110\text{V}; I_B = 0$           |      |      | -100  | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB} = -5\text{V}; I_C = 0$             |      |      | -100  | $\mu\text{A}$ |
| $h_{FE-1}$    | 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 |  | $\mu\text{s}$ |
| $t_{stg}$ | Storage Time |   |  | 2.5 |  | $\mu\text{s}$ |
| $t_f$     | Fall Time    |   |  | 1.7 |  | $\mu\text{s}$ |

**◆  $h_{FE-2}$  Classifications**

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

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