

## PNP SILICON DARLINGTON POWER TRANSISTORS 2SB794, 2SB795

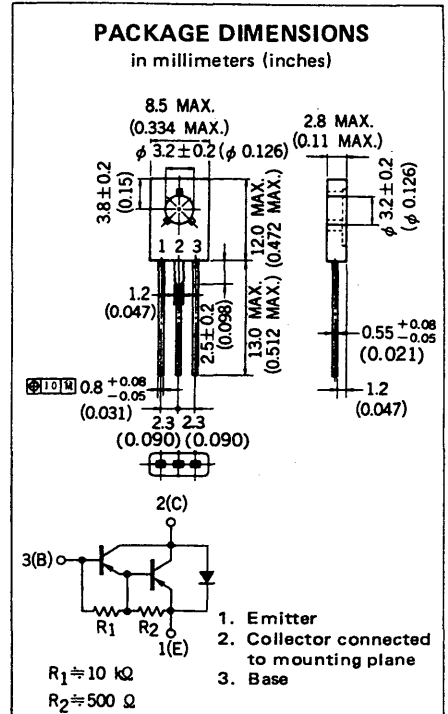
**DESCRIPTION** The 2SB794, 2SB795 are darlington transistors built-in diode at C-E. They are suitable for use operating from IC without predriver, such as hammer driver.

- FEATURES**
- High DC Current Gain.
  - Low Collector Saturation Voltage.
  - Built-in a diode at C-E.
  - Complementary to the NEC 2SD985, 2SD986 NPN Transistors.

**ABSOLUTE MAXIMUM RATINGS**

|  |                  |
|--|------------------|
| Maximum Temperatures                                   |                  |
| Storage Temperature                                    | -55 to +150 °C   |
| Junction Temperature                                   | +150 °C Maximum  |
| Maximum Power Dissipations                             |                  |
| Total Power Dissipation (T <sub>a</sub> = 25 °C)       | 1.0 W            |
| Total Power Dissipation (T <sub>c</sub> = 25 °C)       | 10 W             |
| Maximum Voltages and Currents (T <sub>a</sub> = 25 °C) |                  |
|  | 2SB794    2SB795 |
| V <sub>CB0</sub> Collector to Base Voltage             | -60    -80 V     |
| V <sub>CEO</sub> Collector to Emitter Voltage          | -60    -80 V     |
| V <sub>EBO</sub> Emitter to Base Voltage               | -8.0    V        |
| I <sub>C(DC)</sub> Collector Current                   | ±1.5    A        |
| I <sub>C(pulse)*</sub> Collector Current               | ±3.0    A        |

\* PW ≤ 10 ms, Duty Cycle ≤ 50 %



**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25 °C)**

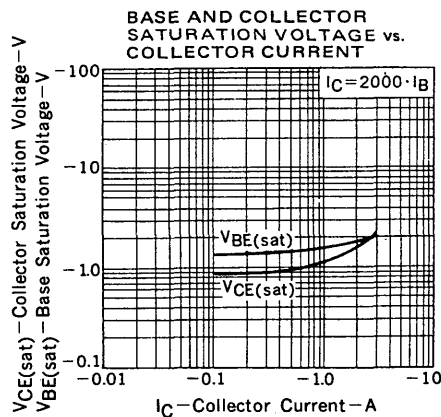
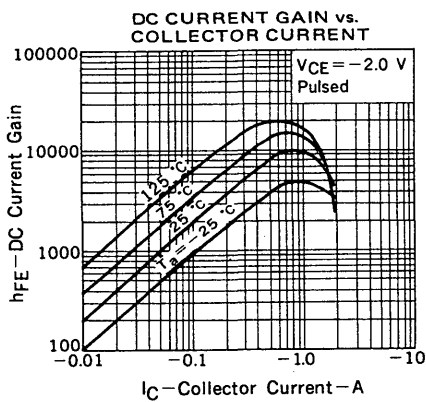
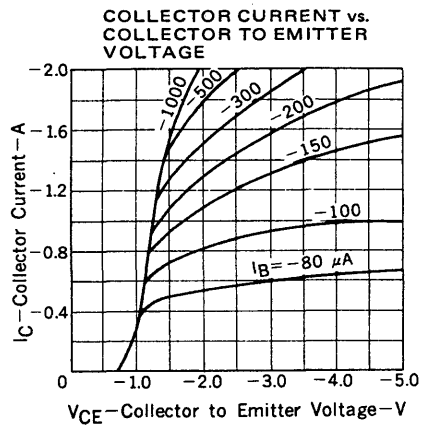
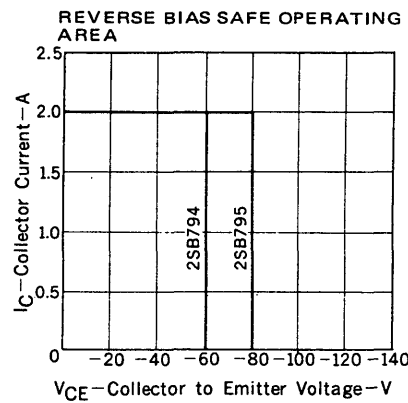
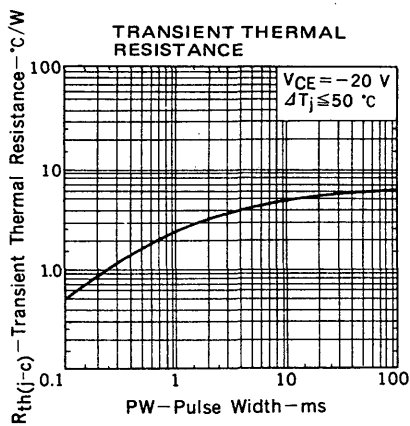
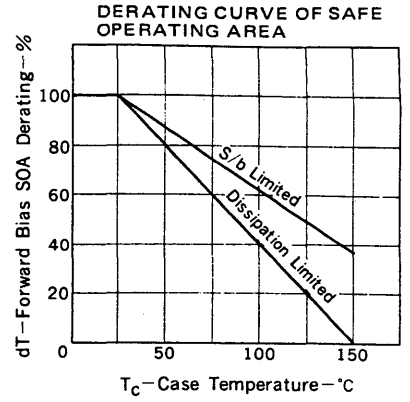
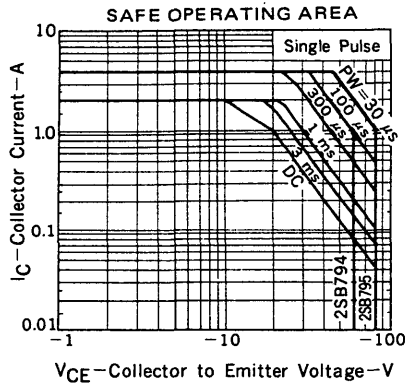
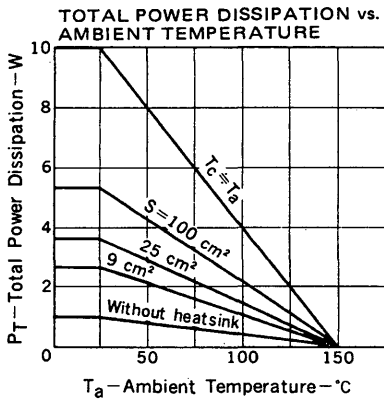
| SYMBOL               | CHARACTERISTIC               | MIN. | TYP. | MAX.  | UNIT | TEST CONDITIONS  |
|----------------------|------------------------------|------|------|-------|------|--|
| h <sub>FE1</sub>     | DC Current Gain              | 1000 |      |       | -    | V <sub>CE</sub> = -2.0 V, I <sub>C</sub> = -0.5 A  |
| h <sub>FE2</sub>     | DC Current Gain              | 2000 |      | 30000 | -    | V <sub>CE</sub> = -2.0 V, I <sub>C</sub> = -1.0 A  |
| t <sub>on</sub>      | Turn On Time                 |      | 0.5  |       | μs   | I <sub>C</sub> = -1.0 A, R <sub>L</sub> = 50 Ω<br>I <sub>B1</sub> = -I <sub>B2</sub> = -1.0 mA, V <sub>CC</sub> = -50 V<br>See Test Circuit. |
| t <sub>stg</sub>     | Storage Time                 |      | 1.0  |       | μs   |  |
| t <sub>f</sub>       | Fall Time                    |      | 1.0  |       | μs   |  |
| I <sub>CB0</sub>     | Collector Cutoff Current     |      |      | -1.0  | μA   | V <sub>CB</sub> = -60/-80 V, I <sub>E</sub> = 0  |
| I <sub>EBO</sub>     | Emitter Cutoff Current       |      |      | -1.0  | mA   | V <sub>EB</sub> = -5.0 V, I <sub>C</sub> = 0   |
| V <sub>CE(sat)</sub> | Collector Saturation Voltage |      |      | -15   | V    | I <sub>C</sub> = -1.0 A, I <sub>B</sub> = -1.0 mA  |
| V <sub>BE(sat)</sub> | Base Saturation Voltage      |      |      | -2.0  | V    | I <sub>C</sub> = -1.0 A, I <sub>B</sub> = -1.0 mA  |

**Classification of h<sub>FE1</sub>**

| Rank  | M            | L             | K             |
|-------|--------------|---------------|---------------|
| Range | 2000 to 5000 | 4000 to 10000 | 8000 to 30000 |

Test Conditions: V<sub>CE</sub> = -2.0 V, I<sub>C</sub> = -1.0 A

TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )



SWITCHING TIME ( $t_{on}$ ,  $t_{stg}$ ,  $t_f$ ) TEST CIRCUIT

