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## HIGH VOLTAGE NPN SILICON POWER TRANSISTOR

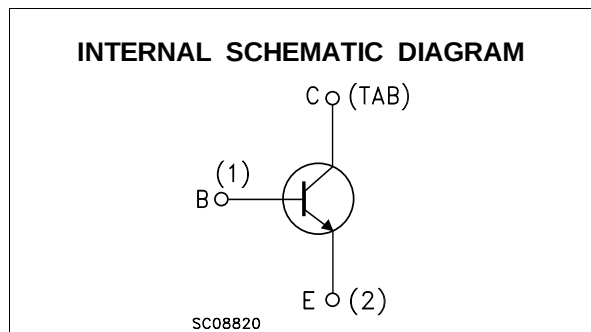
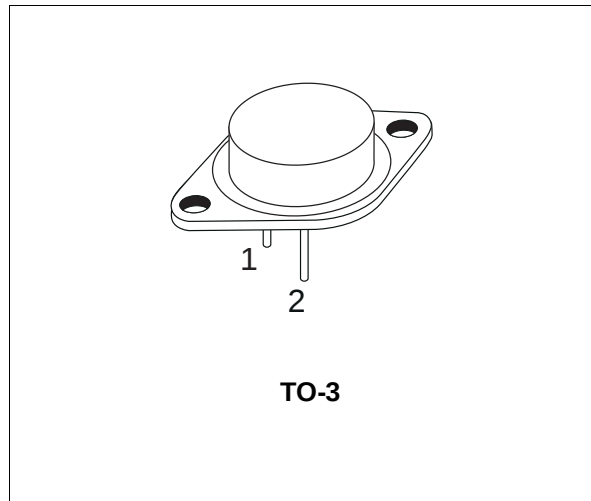
- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR
- FAST SWITCHING SPEED

### APPLICATIONS:

- POWER SUPPLIES
- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

### DESCRIPTION

The BU326A is a silicon multiepitaxial mesa NPN transistor in Jedec TO-3 metal case particularly intended for switch-mode CTV supply system.



### ABSOLUTE MAXIMUM RATINGS

| Symbol    | Parameter                                                             | Value      | Unit               |
|-----------|-----------------------------------------------------------------------|------------|--------------------|
| $V_{CES}$ | Collector-Emitter Voltage ( $V_{BE} = 0$ )                            | 900        | V                  |
| $V_{CEO}$ | Collector-Emitter Voltage ( $I_B = 0$ )                               | 400        | V                  |
| $V_{EBO}$ | Emitter-Base Voltage ( $I_C = 0$ )                                    | 10         | V                  |
| $I_C$     | Collector Current                                                     | 6          | A                  |
| $I_{CM}$  | Collector Peak Current                                                | 8          | A                  |
| $I_B$     | Base Current                                                          | 3          | A                  |
| $P_{tot}$ | Total Power Dissipation at $T_{case} \leq 25\text{ }^{\circ}\text{C}$ | 75         | W                  |
| $T_{stg}$ | Storage Temperature                                                   | -65 to 200 | $^{\circ}\text{C}$ |
| $T_j$     | Max. Operating Junction Temperature                                   | 200        | $^{\circ}\text{C}$ |

**THERMAL DATA**

|                       |                                  |     |      |      |
|-----------------------|----------------------------------|-----|------|------|
| R <sub>thj-case</sub> | Thermal Resistance Junction-case | Max | 2.33 | °C/W |
|-----------------------|----------------------------------|-----|------|------|

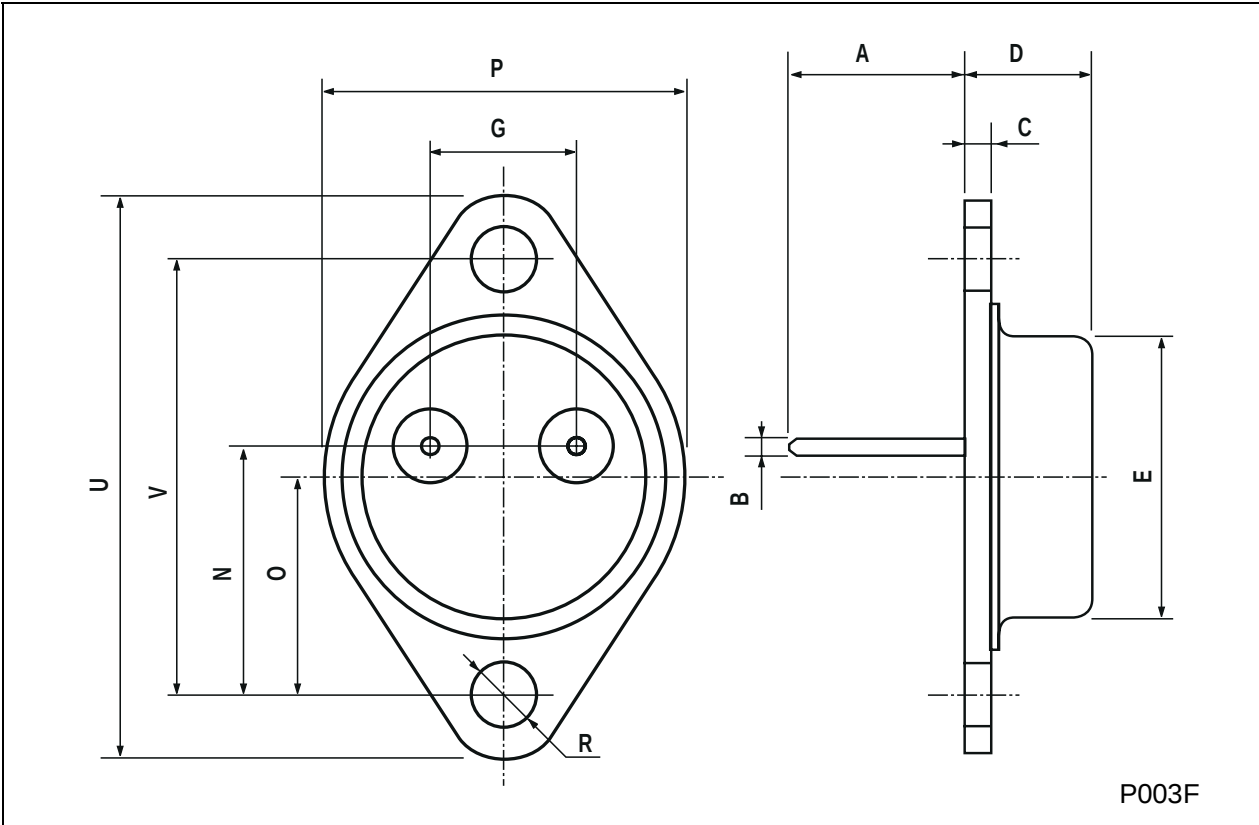
**ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25 °C unless otherwise specified)

| Symbol                  | Parameter                                                   | Test Conditions                                                                                   | Min. | Typ. | Max.       | Unit     |
|-------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------|------|------------|----------|
| I <sub>CES</sub>        | Collector Cut-off Current<br>(V <sub>BE</sub> = 0)          | V <sub>CE</sub> = 900 V<br>V <sub>CE</sub> = 900 V T <sub>C</sub> = 125 °C                        |      |      | 1<br>2     | mA<br>mA |
| I <sub>EBO</sub>        | Emitter Cut-off Current<br>(I <sub>C</sub> = 0)             | V <sub>EB</sub> = 10 V                                                                            |      |      | 10         | mA       |
| V <sub>CEO(sus)</sub> * | Collector-Emitter<br>Sustaining Voltage(I <sub>B</sub> = 0) | I <sub>C</sub> = 100 mA                                                                           | 400  |      |            | V        |
| V <sub>CE(sat)</sub> *  | Collector-Emitter<br>Saturation Voltage                     | I <sub>C</sub> = 2.5 A I <sub>B</sub> = 0.5 A<br>I <sub>C</sub> = 4 A I <sub>B</sub> = 1.25 A     |      |      | 1.5<br>3   | V<br>V   |
| V <sub>BE(sat)</sub> *  | Base-Emitter Saturation<br>Voltage                          | I <sub>C</sub> = 2.5 A I <sub>B</sub> = 0.5 A<br>I <sub>C</sub> = 4 A I <sub>B</sub> = 1.25 A     |      |      | 1.4<br>1.6 | V        |
| h <sub>FE</sub> *       | DC Current Gain                                             | I <sub>C</sub> = 1 A V <sub>CE</sub> = 5 V                                                        |      | 25   |            |          |
| t <sub>on</sub>         | Turn-on Time                                                | I <sub>C</sub> = 2.5 A I <sub>B1</sub> = 0.5 A<br>V <sub>CC</sub> = 250 V                         |      |      | 0.5        | μs       |
| t <sub>s</sub>          | Storage Time                                                | I <sub>C</sub> = 2.5 A I <sub>B1</sub> = 0.5 A<br>I <sub>B2</sub> = -1A A V <sub>CC</sub> = 250 V |      |      | 3.5        | μs       |
| t <sub>f</sub>          | Fall Time                                                   | I <sub>C</sub> = 2.5 A I <sub>B1</sub> = 0.5 A<br>I <sub>B2</sub> = -1A A V <sub>CC</sub> = 250 V |      |      | 0.5        | μs       |

\* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

TO-3 MECHANICAL DATA

| DIM. | mm    |      |       | inch  |      |       |
|------|-------|------|-------|-------|------|-------|
|      | MIN.  | TYP. | MAX.  | MIN.  | TYP. | MAX.  |
| A    | 11.00 |      | 13.10 | 0.433 |      | 0.516 |
| B    | 0.97  |      | 1.15  | 0.038 |      | 0.045 |
| C    | 1.50  |      | 1.65  | 0.059 |      | 0.065 |
| D    | 8.32  |      | 8.92  | 0.327 |      | 0.351 |
| E    | 19.00 |      | 20.00 | 0.748 |      | 0.787 |
| G    | 10.70 |      | 11.10 | 0.421 |      | 0.437 |
| N    | 16.50 |      | 17.20 | 0.649 |      | 0.677 |
| P    | 25.00 |      | 26.00 | 0.984 |      | 1.023 |
| R    | 4.00  |      | 4.09  | 0.157 |      | 0.161 |
| U    | 38.50 |      | 39.30 | 1.515 |      | 1.547 |
| V    | 30.00 |      | 30.30 | 1.187 |      | 1.193 |



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