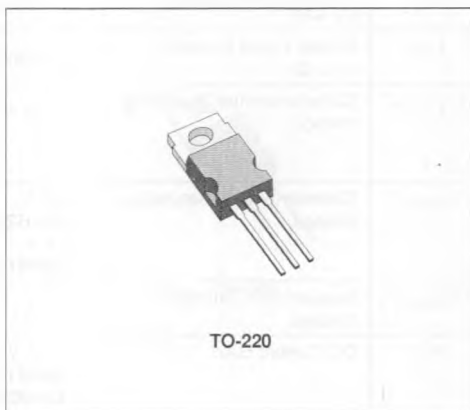


## SWITCHING APPLICATIONS GENERAL PURPOSE

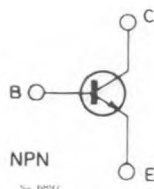
### DESCRIPTION

The D44H series are silicon multiepitaxial planar transistors and are mounted in Jedec TO-220 plastic package.

They are intended for various switching and general purpose applications.



### INTERNAL SCHEMATIC DIAGRAM



### ABSOLUTE MAXIMUM RATINGS

| Symbol    | Parameter  | Value       |             |             |               | Unit             |
|-----------|--|-------------|-------------|-------------|---------------|------------------|
|           |  | D44H<br>1/2 | D44H<br>4/5 | D44H<br>7/8 | D44H<br>10/11 |                  |
| $V_{CE0}$ | Collector-emitter Voltage ( $I_B = 0$ )                  | 30          | 45          | 60          | 80            | V                |
| $V_{EBO}$ | Emitter-base Voltage ( $I_C = 0$ )                       | 5           |             |             |               | V                |
| $I_C$     | Collector Current  | 10          |             |             |               | A                |
| $I_{CM}$  | Collector Peak Current                                   | 20          |             |             |               | A                |
| $P_{101}$ | Total Power Dissipation $T_{case} \leq 25^\circ\text{C}$ | 50          |             |             |               | W                |
| $T_{sig}$ | Storage Temperature                                      | - 55 to 150 |             |             |               | $^\circ\text{C}$ |
| $T_j$     | Junction Temperature                                     | 150         |             |             |               | $^\circ\text{C}$ |

**THERMAL DATA**

|               |                                  |     |     |     |
|---------------|----------------------------------|-----|-----|-----|
| $R_{th(j-c)}$ | Thermal Resistance Junction-case | Max | 2.5 | C/W |
|---------------|----------------------------------|-----|-----|-----|

**ELECTRICAL CHARACTERISTICS**( $T_{case} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)

| Symbol           | Parameter                                 | Test Conditions  | Min.                 | Typ. | Max.   | Unit             |
|------------------|---|--|----------------------|------|--------|------------------|
| $I_{CBO}$        | Collector Cutoff Current<br>( $I_E = 0$ ) | $V_{CB} = \text{Rated } V_{CEO}$   |                      |      | 10     | $\mu\text{A}$    |
| $I_{EBO}$        | Emitter Cutoff Current<br>( $I_C = 0$ )   | $V_{EB} = \text{Rated } V_{EBO}$   |                      |      | 100    | $\mu\text{A}$    |
| $V_{CEO(sus)}^*$ | Collector-emitter Sustaining Voltage      | $I_C = 100\text{ mA}$ for <b>D44H1/2</b><br>for <b>D44H4/5</b><br>for <b>D44H7/8</b><br>for <b>D44H10/11</b>   | 30<br>45<br>60<br>80 |      |        | V<br>V<br>V<br>V |
| $V_{CE(sat)}^*$  | Collector-emitter Saturation Voltage      | $I_C = 8\text{ A}$ $I_B = 0.4\text{ A}$<br>for <b>D44H2/5/8/11</b><br>$I_C = 8\text{ A}$ $I_B = 0.8\text{ A}$<br>for <b>D44H1/4/7/10</b>   |                      |      | 1<br>1 | V<br>V           |
| $V_{BE(sat)}^*$  | Base-emitter Saturation Voltage           | $I_C = 8\text{ A}$ $I_B = 0.8\text{ A}$  |                      |      | 1.5    | V                |
| $h_{FE}^*$       | DC Current Gain                           | $V_{CE} = 1\text{ V}$ $I_C = 2\text{ A}$<br>for <b>D44H1/4/7/10</b><br>for <b>D44H2/5/8/11</b><br>$V_{CE} = 1\text{ V}$ $I_C = 4\text{ A}$<br>for <b>D44H1/4/7/10</b><br>for <b>D44H2/5/8/11</b> | 35<br>60<br>20<br>40 |      |        |                  |

\* Pulsed . pulse duration = 300 $\mu\text{s}$ . duty cycle = 1.5%.