

**BU407/407H****NPN EPITAXIAL SILICON TRANSISTOR**

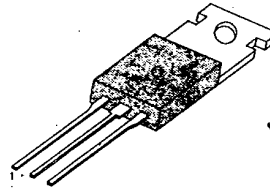
**HIGH VOLTAGE SWITCHING  
USE IN HORIZONTAL DEFLECTION  
OUTPUT STAGE**

T-33-11

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

| Characteristic            | Symbol    | Rating  | Unit             |
|---------------------------|-----------|---------|------------------|
| Collector-Base Voltage    | $V_{CB0}$ | 330     | V                |
| Collector-Emitter Voltage | $V_{CE0}$ | 150     | V                |
| Emitter-Base Voltage      | $V_{EB0}$ | 6       | V                |
| Collector Current         | $I_C$     | 7       | A                |
| Collector Peak Current    | $I_{CM}$  | 10      | A                |
| Base Current              | $I_B$     | 4       | A                |
| Collector Dissipation     | $P_C$     | 60      | W                |
| Junction Temperature      | $T_J$     | 150     | $^\circ\text{C}$ |
| Storage Temperature       | $T_{stg}$ | -65~150 | $^\circ\text{C}$ |

TO-220



1. Base 2. Collector 3. Emitter

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

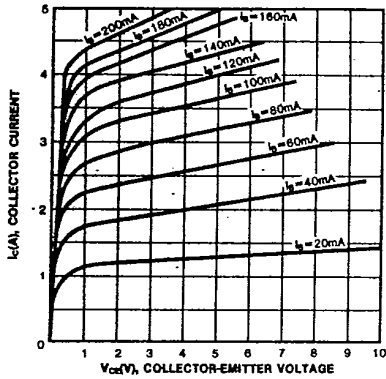
| Characteristic  | Symbol        | Test Condition  | Min | Max           | Unit                           |
|---|---------------|---|-----|---------------|--------------------------------|
| Collector Cutoff Current ( $V_{BE}=0$ )                     | $I_{CES}$     | $V_{CE}=330\text{V}, V_{BE}=0$<br>$V_{CE}=200\text{V}, V_{BE}=0$<br>$V_{CE}=200\text{V}, V_{BE}=0, T_C=150^\circ\text{C}$ |     | 5<br>100<br>1 | mA<br>$\mu\text{A}$<br>mA      |
| Emitter Cutoff Current ( $I_C=0$ )                          | $I_{EBO}$     | $V_{BE}=6\text{V}, I_C=0$   |     | 1             | mA                             |
| Collector Emitter Saturation Voltage<br>: BU407<br>: BU407H | $V_{CE(sat)}$ | $I_C=5\text{A}, I_B=0.5\text{A}$<br>$I_C=5\text{A}, I_B=0.8\text{A}$  |     | 1<br>1        | V<br>V                         |
| Base Emitter Saturation Voltage<br>: BU407<br>: BU407H      | $V_{BE(sat)}$ | $I_C=5\text{A}, I_B=0.5\text{A}$<br>$I_C=5\text{A}, I_B=0.8\text{A}$  |     | 1.2<br>1.2    | V<br>V                         |
| Current Gain-Bandwidth Product                              | $f_T$         | $V_{CE}=10\text{V}, I_C=0.5\text{A}$  | 10  |               | MHz                            |
| Turn-Off Time<br>: BU407<br>: BU407H                        | $t_{off}$     | $I_C=5\text{A}, I_B=0.5\text{A}$<br>$I_C=5\text{A}, I_B=0.8\text{A}$  |     | 0.75<br>0.4   | $\mu\text{S}$<br>$\mu\text{S}$ |

**BU407/407H**

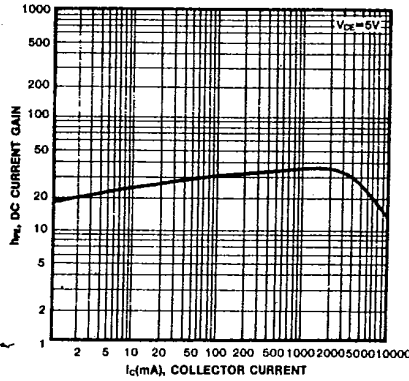
**NPN EPITAXIAL SILICON TRANSISTOR**

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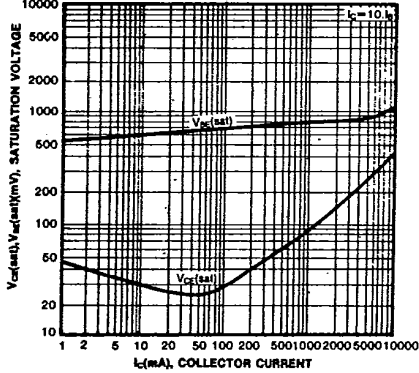
**STATIC CHARACTERISTIC**



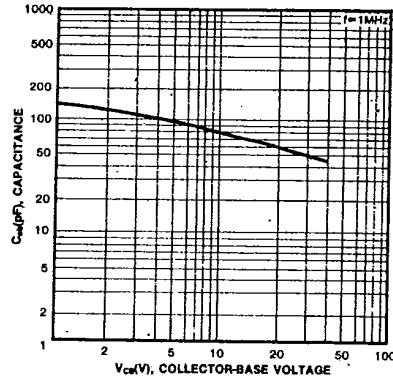
**DC CURRENT GAIN**



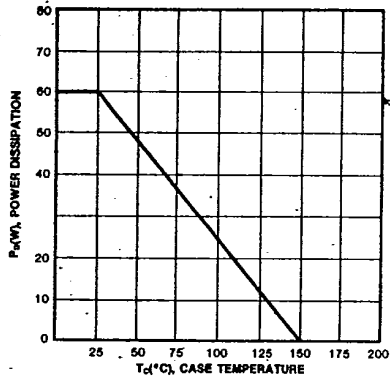
**BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE**



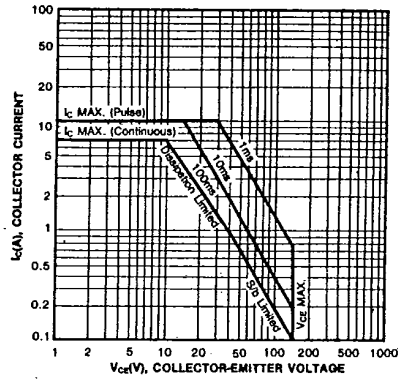
**COLLECTOR OUTPUT CAPACITANCE**



**POWER DERATING**



**SAFE OPERATING AREA**



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## BU806/807

NPN EPITAXIAL  
SILICON DARLINGTON TRANSISTOR

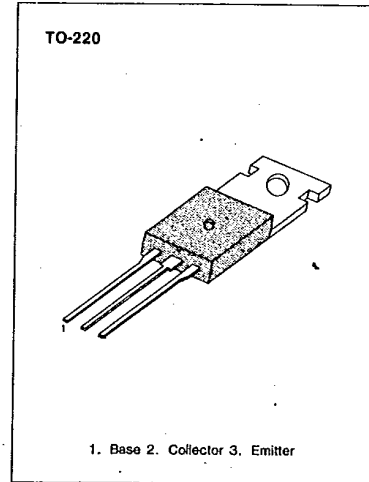
T-33-11

**FAST SWITCHING DARLINGTON  
TRANSISTOR**  
**HIGH VOLTAGE DARLINGTON TRANSISTOR  
USING IN HORIZONTAL OUTPUT STAGES  
OF 110° CRT VIDEO DISPLAYS**

BUILT-IN SPEED-UP Diode Between Base and Emitter

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

| Characteristic                 | Symbol    | Rating  | Unit             |
|--------------------------------|-----------|---------|------------------|
| Collector-Base Voltage : BU806 | $V_{CB0}$ | 400     | V                |
| : BU807                        |           | 330     | V                |
| Collector Emitter Voltage      | $V_{CE0}$ | 200     | V                |
| : BU806                        |           | 150     | V                |
| : BU807                        |           | 150     | V                |
| Emitter-Base Voltage           | $V_{EB0}$ | 6       | V                |
| Collector Current (DC)         | $I_C$     | 8       | A                |
| Collector Current (Pulse)      | $I_C$     | 15      | A                |
| Base Current                   | $I_B$     | 2       | A                |
| Collector Dissipation          | $P_C$     | 60      | W                |
| Junction Temperature           | $T_J$     | 150     | $^\circ\text{C}$ |
| Storage Temperature            | $T_{stg}$ | -65~150 | $^\circ\text{C}$ |

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

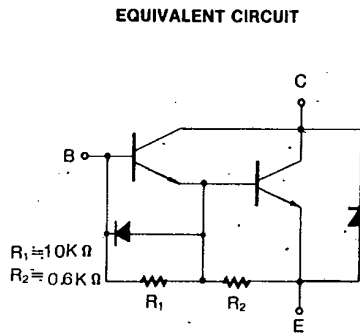
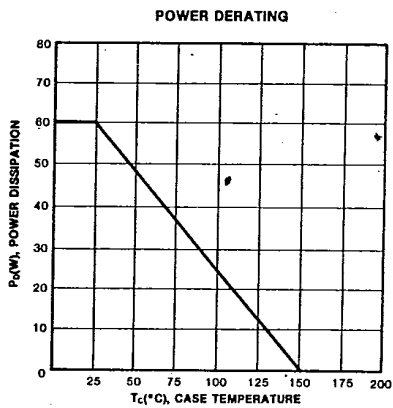
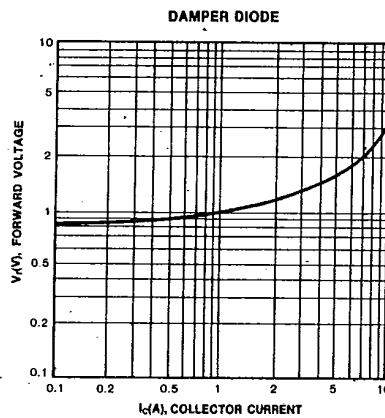
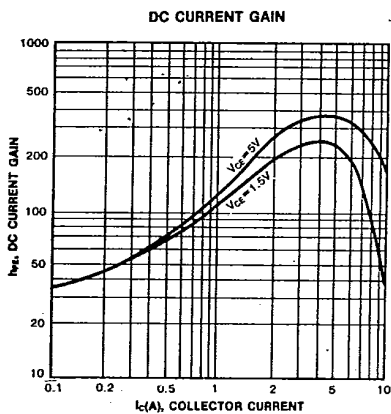
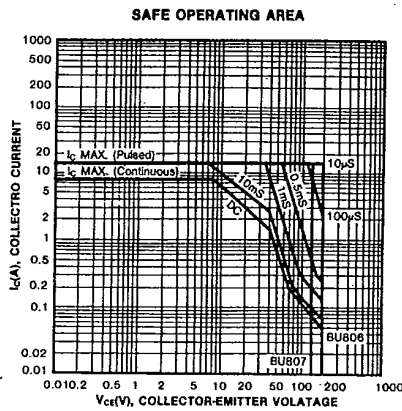
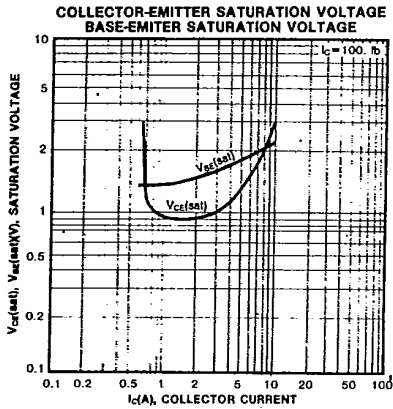
| Characteristic                         | Symbol         | Test Condition                              | Min | Typ | Max | Unit          |
|--|----------------|---|-----|-----|-----|---------------|
| * Collector-Emitter Sustaining Voltage | $V_{CE0(sus)}$ | $I_C = 100\text{mA}, I_B = 0$               | 200 |     |     | V             |
| : BU806                                |                |   | 150 |     |     | V             |
| Collector Cutoff Current               | $I_{CES}$      | $V_{CE} = 400\text{V}, V_{BE} = 0$          |     |     | 100 | $\mu\text{A}$ |
| : BU806                                |                | $V_{CE} = 330\text{V}, V_{BE} = 0$          |     |     | 100 | $\mu\text{A}$ |
| Collector Cutoff Current               | $I_{CEV}$      | $V_{CE} = 400\text{V}, V_{BE} = -6\text{V}$ |     |     | 100 | $\mu\text{A}$ |
| : BU806                                |                | $V_{CE} = 330\text{V}, V_{BE} = -6\text{V}$ |     |     | 100 | $\mu\text{A}$ |
| Emitter Cutoff Current                 | $I_{EBO}$      | $V_{BE} = 6\text{V}, I_C = 0$               |     |     | 3   | $\text{mA}$   |
| * Collector-Emitter Saturation Voltage | $V_{CE(sat)}$  | $I_C = 5\text{A}, I_B = 50\text{mA}$        |     |     | 1.5 | V             |
| * Base Emitter Saturation Voltage      | $V_{BE(sat)}$  | $I_C = 5\text{A}, I_B = 50\text{mA}$        |     |     | 2.4 | V             |
| * Damper Diode Forward Voltage         | $V_f$          | $I_f = 4\text{A}$                           |     |     | 2   | V             |

\* Pulsed: pulsed duration =  $300\mu\text{s}$ , duty cycle = 1.5%

**BU806/807**

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SILICON DARLINGTON TRANSISTOR**

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This datasheet has been downloaded from:

[www.DatasheetCatalog.com](http://www.DatasheetCatalog.com)

Datasheets for electronic components.