

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

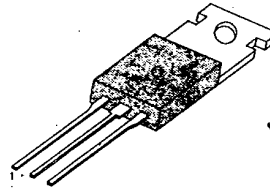
**HIGH VOLTAGE SWITCHING  
USE IN HORIZONTAL DEFLECTION  
OUTPUT STAGE**

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

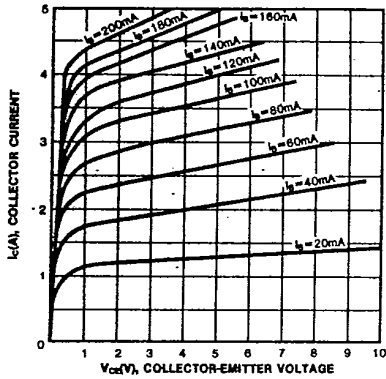
Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector Cutoff Current ( $V_{BE}=0$ )	$I_{CES}$	$V_{CE}=330\text{V}, V_{BE}=0$ $V_{CE}=200\text{V}, V_{BE}=0$ $V_{CE}=200\text{V}, V_{BE}=0, T_C=150^\circ\text{C}$		5 100 1	mA $\mu\text{A}$ mA
Emitter Cutoff Current ( $I_C=0$ )	$I_{EBO}$	$V_{BE}=6\text{V},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

**BU407/407H**

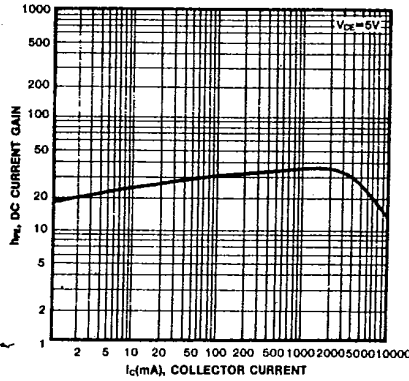
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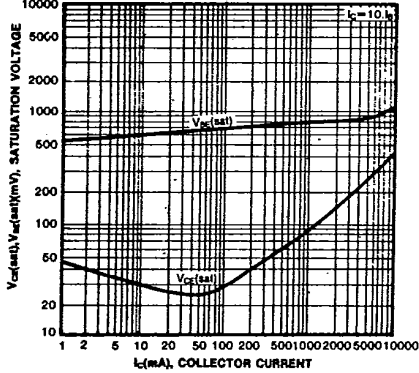
**STATIC CHARACTERISTIC**



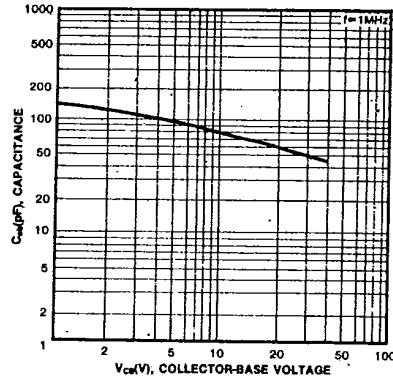
**DC CURRENT GAIN**



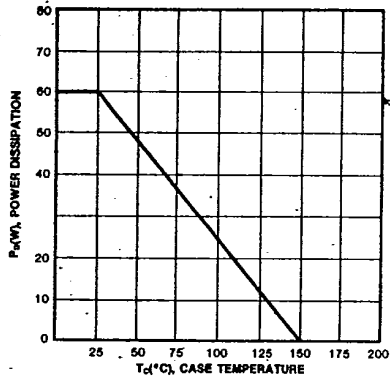
**BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE**



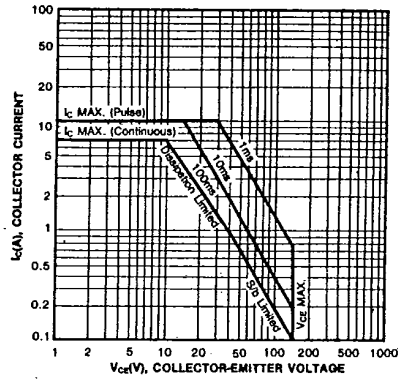
**COLLECTOR OUTPUT CAPACITANCE**



**POWER DERATING**



**SAFE OPERATING AREA**



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**BU806/807****NPN EPITAXIAL  
SILICON DARLINGTON TRANSISTOR**

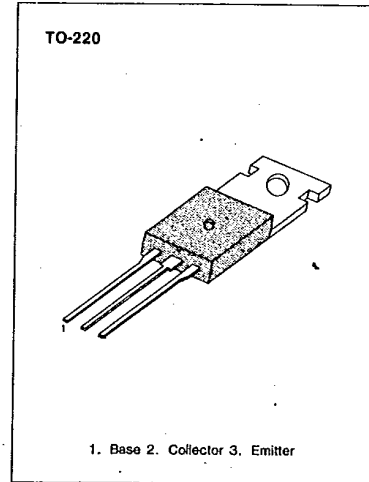
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**FAST SWITCHING DARLINGTON  
TRANSISTOR**  
**HIGH VOLTAGE DARLINGTON TRANSISTOR  
USING IN HORIZONTAL OUTPUT STAGES  
OF 110° CRT VIDEO DISPLAYS**

BUILT-IN SPEED-UP Diode Between Base and Emitter

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage : BU806	V <sub>CB0</sub>	400	V
: BU807		330	V
Collector Emitter Voltage	V <sub>CE0</sub>	200	V
: BU806		150	V
: BU807		150	V
Emitter-Base Voltage	V <sub>EB0</sub>	6	V
Collector Current (DC)	I <sub>C</sub>	8	A
Collector Current (Pulse)	I <sub>C</sub>	15	A
Base Current	I <sub>B</sub>	2	A
Collector Dissipation	P <sub>C</sub>	60	W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-65~150	°C

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

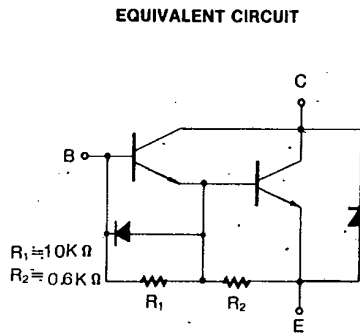
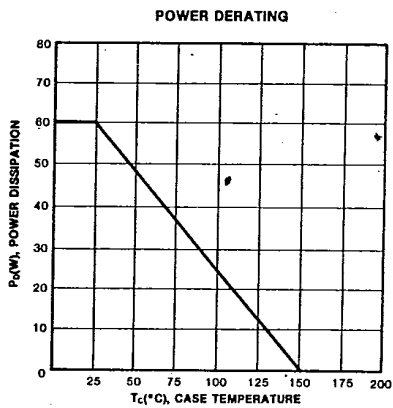
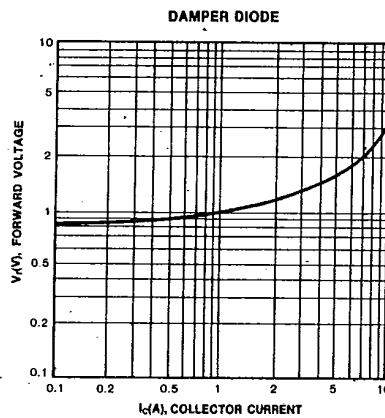
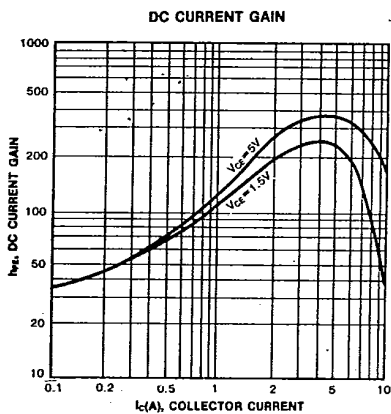
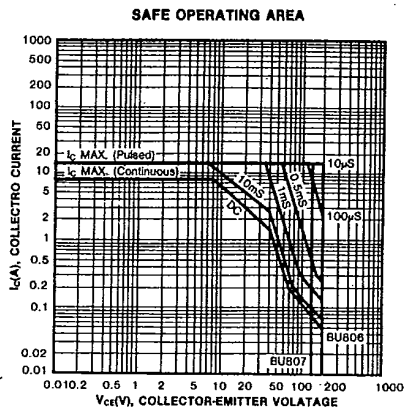
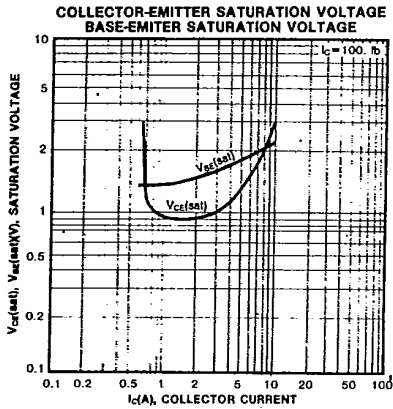
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
* Collector-Emitter Sustaining Voltage	V <sub>CE0(sus)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =0	200			V
: BU806			150			V
Collector Cutoff Current	I <sub>CE0</sub>	V <sub>CE</sub> =400V, V <sub>BE</sub> =0			100	μA
: BU806		V <sub>CE</sub> =330V, V <sub>BE</sub> =0			100	μA
Collector Cutoff Current	I <sub>CEV</sub>	V <sub>CE</sub> =400V, V <sub>BE</sub> =-6V			100	μA
: BU806		V <sub>CE</sub> =330V, V <sub>BE</sub> =-6V			100	μA
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>BE</sub> =6V, I <sub>C</sub> =0			3	mA
* Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =5A, I <sub>B</sub> =50mA			1.5	V
* Base Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =5A, I <sub>B</sub> =50mA			2.4	V
* Damper Diode Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =4A			2	V

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

**BU806/807**

**NPN EPITAXIAL  
SILICON DARLINGTON TRANSISTOR**

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