

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

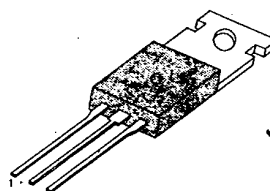
**HIGH VOLTAGE SWITCHING
USE IN HORIZONTAL DEFLECTION
OUTPUT STAGE**

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 μA mA
Emitter Cutoff Current ($I_C=0$)	I_{EBO}	$V_{BE}=6\text{V}$, $I_C=0$		1	mA
Collector Emitter Saturation Voltage : BU407	$V_{CE(sat)}$	$I_C=5\text{A}$, $I_B=0.5\text{A}$		1	V
: BU407H		$I_C=5\text{A}$, $I_B=0.8\text{A}$		1	V
Base Emitter Saturation Voltage : BU407	$V_{BE(sat)}$	$I_C=5\text{A}$, $I_B=0.5\text{A}$		1.2	V
: BU407H		$I_C=5\text{A}$, $I_B=0.8\text{A}$		1.2	V
Current Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}$, $I_C=0.5\text{A}$	10		MHz
Turn-Off Time : BU407	t_{off}	$I_C=5\text{A}$, $I_B=0.5\text{A}$		0.75	μS
: BU407H		$I_C=5\text{A}$, $I_B=0.8\text{A}$		0.4	μS

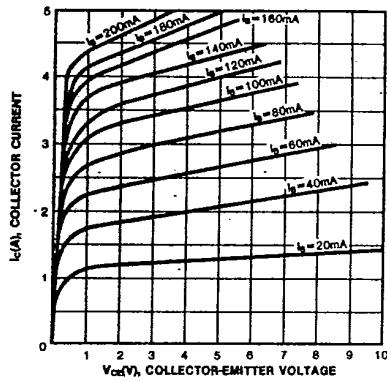


BU407/407H

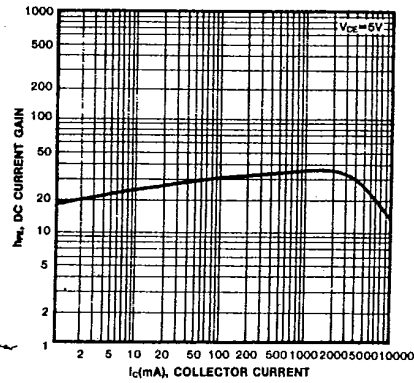
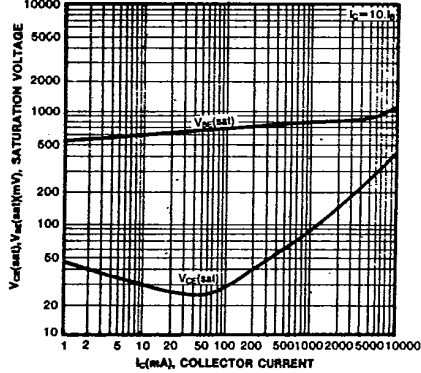
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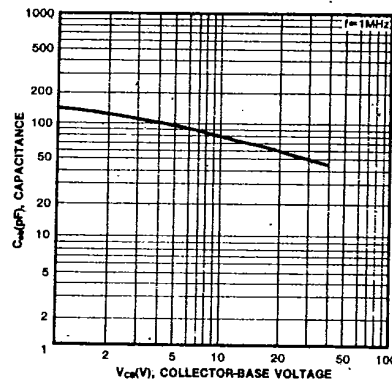
STATIC CHARACTERISTIC



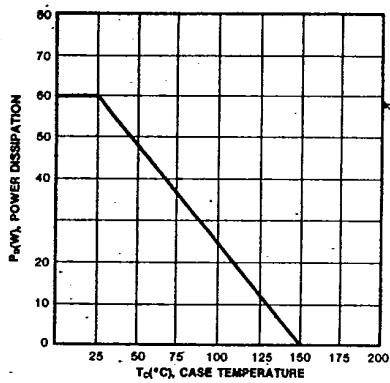
DC CURRENT GAIN

BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE

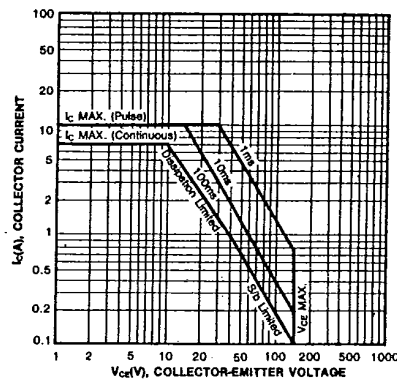
COLLECTOR OUTPUT CAPACITANCE



POWER DERATING



SAFE OPERATING AREA



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

T-33-11

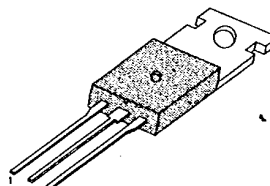
**FAST SWITCHING DARLINGTON
TRANSISTOR****HIGH VOLTAGE DARLINGTON TRANSISTOR
USING IN HORIZONTAL OUTPUT STAGES
OF 110° CRT VIDEO DISPLAYS**

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	$^\circ\text{C}$

TO-220



1. Base 2. Collector 3. Emitter

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

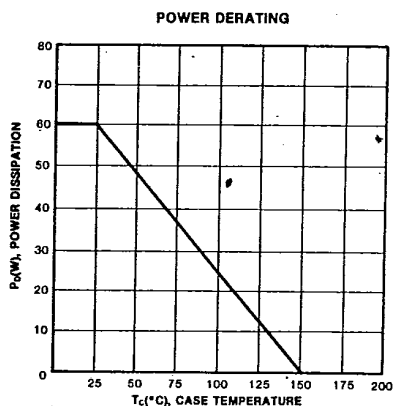
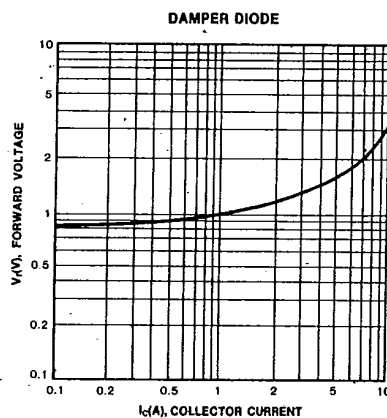
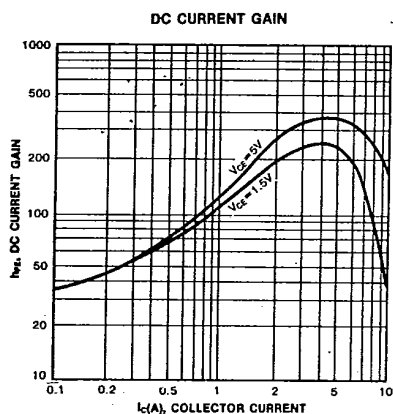
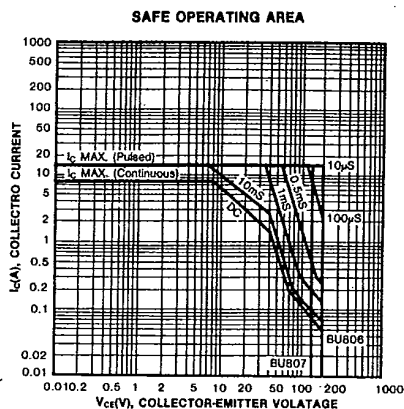
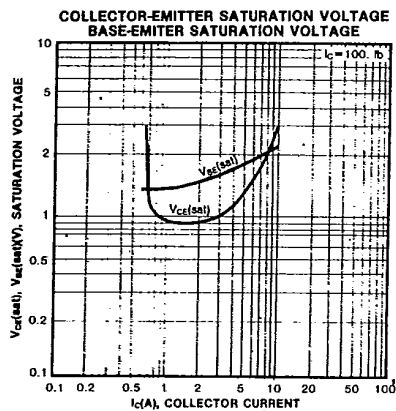
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
* Collector-Emitter Sustaining Voltage	$V_{CE0(sus)}$	$I_C = 100\text{mA}, I_B = 0$	200			V
: BU806			150			V
: BU807						V
Collector Cutoff Current	I_{CES}	$V_{CE} = 400\text{V}, V_{BE} = 0$			100	μA
: BU806		$V_{CE} = 330\text{V}, V_{BE} = 0$			100	μA
: BU807		$V_{CE} = 400\text{V}, V_{BE} = -6\text{V}$			100	μA
Collector Cutoff Current	I_{CEV}	$V_{CE} = 330\text{V}, V_{BE} = -6\text{V}$			100	μA
: BU806		$V_{BE} = 6\text{V}, I_C = 0$			3	μA
: BU807					1.5	V
Emitter Cutoff Current	I_{EBO}	$I_C = 5\text{A}, I_B = 50\text{mA}$			2.4	V
* Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 50\text{mA}$			2	V
* Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5\text{A}, I_B = 50\text{mA}$				V
* Damper Diode Forward Voltage	V_f	$I_f = 4\text{A}$				V

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

BU806/807

NPN EPITAXIAL
SILICON DARLINGTON TRANSISTOR

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EQUIVALENT CIRCUIT

