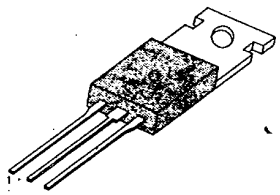
BU407/407H NPN EPITAXIAL SILICON TRANSISTOR

T-33-11

HIGH VOLTAGE SWITCHING
USE IN HORIZONTAL DEFLECTION OUTPUT STAGE

TO-220



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	330	V
Collector-Emitter Voltage	V_{CEO}	150	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	7	A
Collector Peck Current	I_{CM}	10	A
Base Current	I_B	4	A
Collector Dissipation	P_C	60	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−65~150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

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

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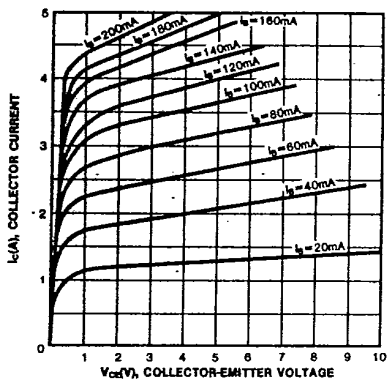
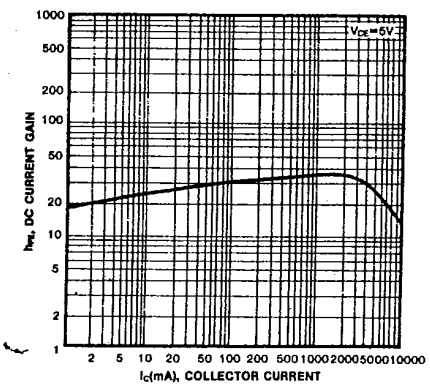
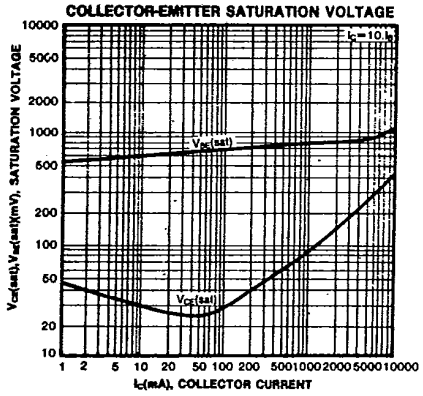
STATIC CHARACTERISTIC



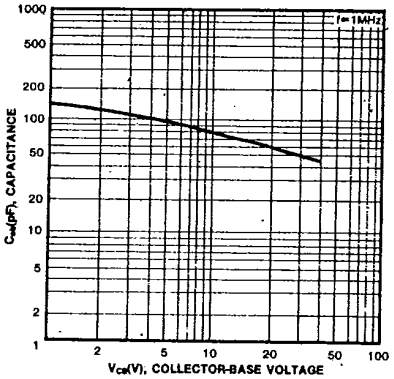
DC CURRENT GAIN



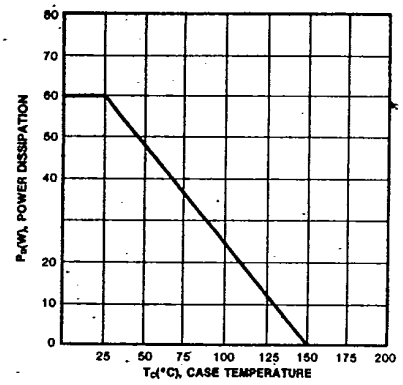
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



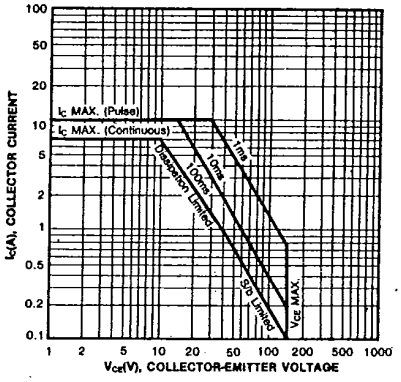
COLLECTOR OUTPUT CAPACITANCE



POWER DERATING



SAFE OPERATING AREA



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BU806/807

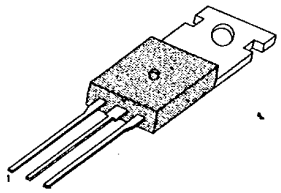
NPN EPITAXIAL SILICON DARLINGTON TRANSISTOR

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

TO-220



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage : BU806	V_{CBO}	400	V
: BU807		330	V
Collector Emitter Voltage	V_{CEO}		
: BU806		200	V
: BU807		150	V
Emitter-Base Voltage	V_{EBO}	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	Tj	150	°C
Storage Temperature	Tstg	−65~150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

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

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

BU806/807

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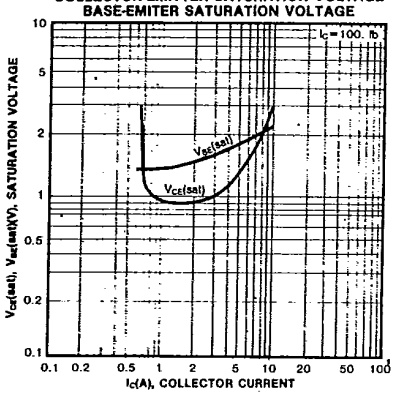
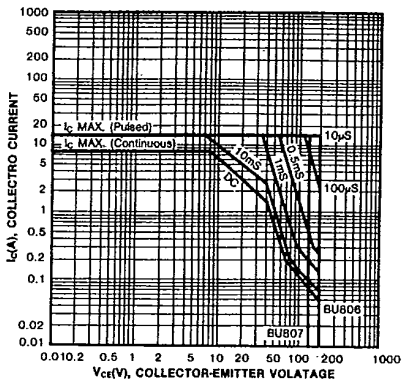
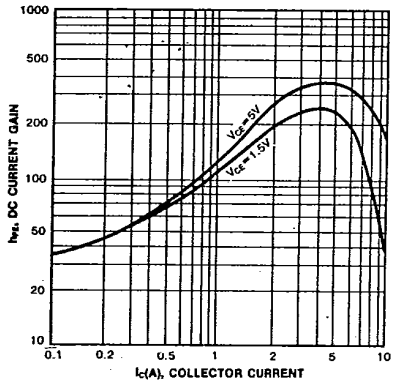
COLLECTOR-EMITTER SATURATION VOLTAGE
BASE-EMITER SATURATION VOLTAGE



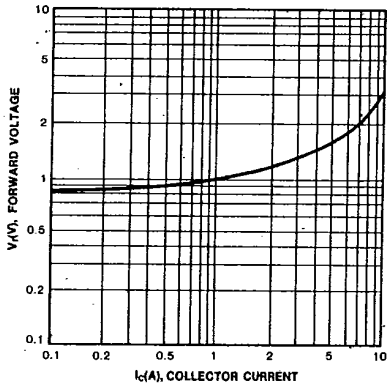
SAFE OPERATING AREA



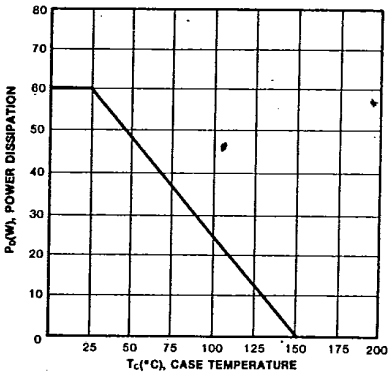
DC CURRENT GAIN



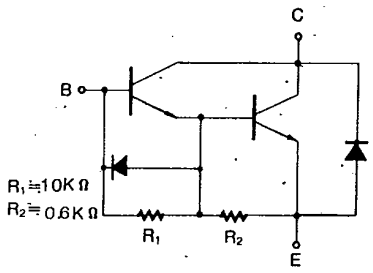
DAMPER DIODE



POWER DERATING



EQUIVALENT CIRCUIT



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