NPN POWER TRANSISTOR

These devices are high voltage,high speed transistors for horizontal deflection output stages of TV"s and CTV"s. circuits.

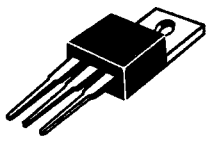
FEATURES:

* Collector-Emitter Sustaining Voltage -
  V_{CEV} = 330 V (Min.) - BU407D
  = 400 V (Min.) - BU406D,BU408D
* Low Saturation Voltage
  $V_{CE(sat)}$=1.0V(Max) @I_C=5.0A
* Fast Switching Speed: tf=0.75 us (Max).

Boca Semiconductor Corp.
BSC
http://www.bocasemi.com

NPN
BU406D
BU407D
BU408D

7 AMPERE
POWER
TRANSISTORS
150-200 VOLTS
60 WATTS



TO-220

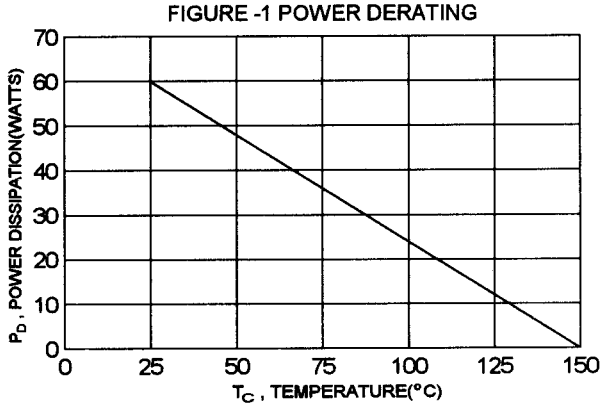
MAXIMUM RATINGS

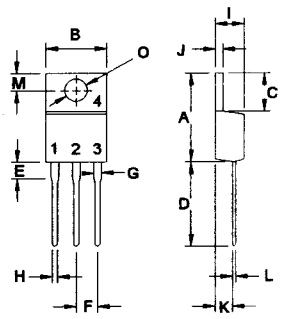
Characteristic	Symbol	BU406D BU408D	BU407D	Unit
Collector-Emitter Voltage	V_{CEO}	200	150	V
Collector-Emitter Voltage	V_{CEV}	400	330	V
Collector-Bse Voltage	V_{CBO}	400	330	V
Emitter-Base Voltage	V_{EBO}	6.0		V
Collector Current - Continuous - Peak	I_C	7.0 10		A
Base Current - Continuous	I_B	4.0		A
Total Power Dissipation @T_C=25°C Derate above 25°C	P_D	60 0.48		W W/°C
Operating and Storage Junction Temperature Range	T_J ,T_{STG}	- 65 to +150		°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	2.08	°C/W

FIGURE -1 POWER DERATING





PIN 1.BASE
2.COLLECTOR
3.EMITTER
4.COLLECTOR(CASE)

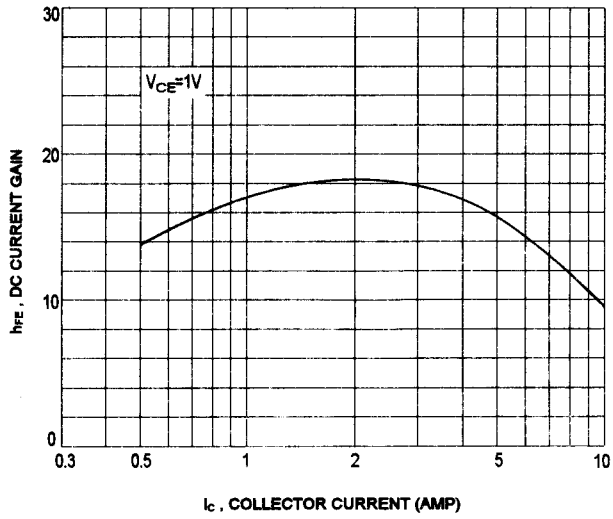
DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.31
B	9.78	10.42
C	5.01	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	3.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.97
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

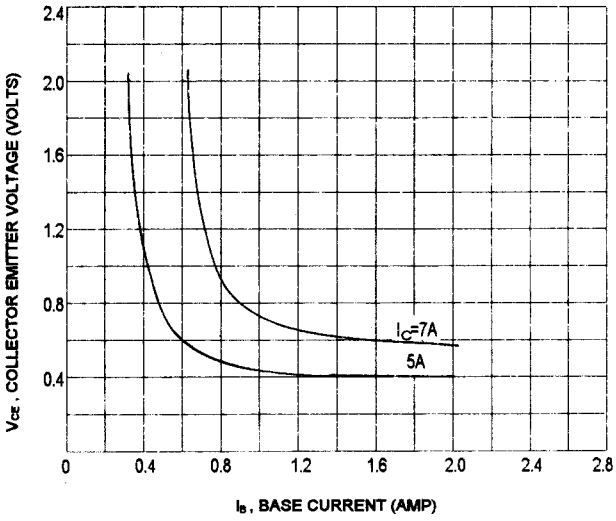
Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector - Emitter Sustaining Voltage (1) (I_C = 100 mA, I_B = 0)	BU406D,BU408D BU407D	$V_{CEO(SUS)}$	200 150		V
Collector Cutoff Current (V_{CE} = 400 V, V_{BE}= -1.5V) (V_{CE} = 330 V, V_{BE}= -1.5V)	BU406D,BU408D BU407D	I_{CEV}		15 15	mA
Emitter Cutoff Current (V_{EB}= 6.0 V , I_C = 0)		I_{EBO}		400	mA
ON CHARACTERISTICS (1)					
DC Current Gain (I_C =2.0 A , V_{CE} = 5.0 V)		hFE	15(typ)		
Collector - Emitter Saturation Voltage (I_C =5.0 A, I_B = 0.65 A) (I_C =6.0 A, I_B = 1.2 A)	BU406D,BU407D BU408D	$V_{CE(sat)}$		1.0 1.0	V
Base - Emitter Saturation Voltage (I_C =5.0 A, I_B = 0.65 A) (I_C =6.0 A, I_B = 1.2 A)	BU406D,BU407D BU408D	$V_{BE(sat)}$		1.3 1.5	V
Diode Forward Voltage (I_F =5.0 A,)		V_F		1.5	V
DYNAMIC CHARACTERISTICS					
Current Gain - Bandwidth Product (I_C = 0.5 A , V_{CE} = 10 V , f = 1.0 MHz)		f_T	10		MHz
SWITCHING CHARACTERISTICS					
Fall Time (V_{CC}=40 V, I_C=5.0 A, $I_{B\,end}$=0.65 A,) (V_{CC}=40 V, I_C=6.0 A, $I_{B\,end}$=1.2 A,)	BU406D,BU407D BU408D	t_f		0.75 0.5	us

(1) Pulse Test: Pulse width ≦ 300 us , Duty Cycle ≦ 2.0%

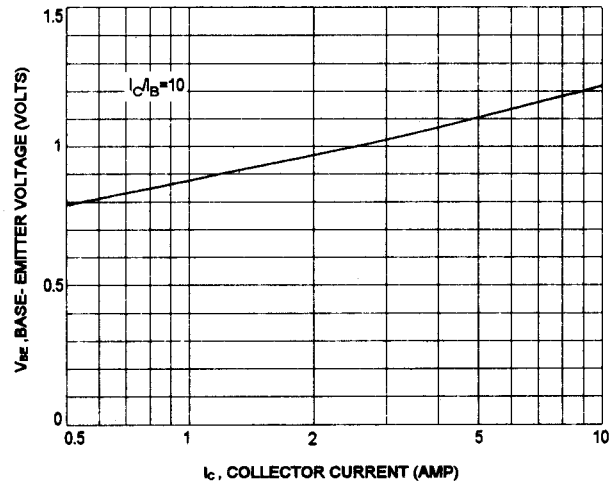
DC CURRENT GAIN



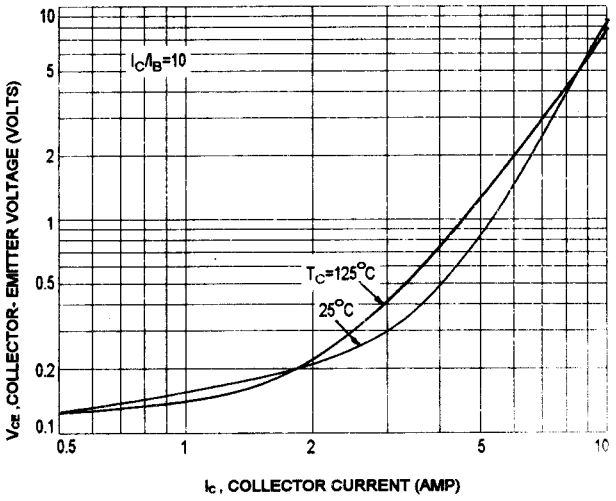
COLLECTOR SATURATION REGION



BASE-EMITTER SATURATION VOLTAGE



COLLECTOR-EMITTER SATURATION VOLTAGE



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