HIGH VOLTAGE POWER TRANSISTOR

The BU126 Type is a fast switching high voltage transistor, more specially intended for operating in color TV receivers chopper supplies.

NPN
BU126

FEATURES:
* Continuous Collector Current- I_C= 3.0A
* Power Dissipation- P_D= 30W@T_C= 25°C
* DC Current Gain hFE=15(Min)@I_C= 1.0A

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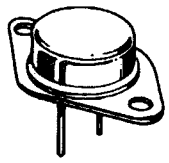
3 AMPERE
POWER
TRANSISTORS
300 VOLTS
30 WATTS



TO-3

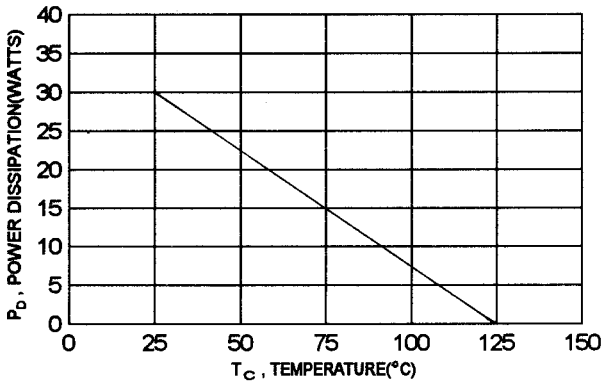
MAXIMUM RATINGS

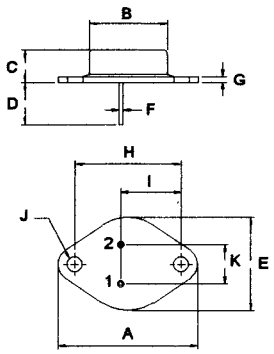
Characteristic	Symbol	BU126	Unit
Collector-Base Voltage	V_{CBO}	750	V
Collector-Emitter Voltage	V_{CEO}	300	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous -Peak	I_C	3.0 5.0	A
Base Current-Continuous	I_B	2.0	A
Total PowerDissipation@T_C=25°C Derate above 25°C	P_D	30 0.3	W W/°C
Operating and Storage Junction Temperature Range	T_J , T_{STG}	-65 to +125	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	3.33	°C/W

FIGURE -1 POWER DERATING





PIN 1.BASE
2.EMITTER
COLLECTOR(CASE)

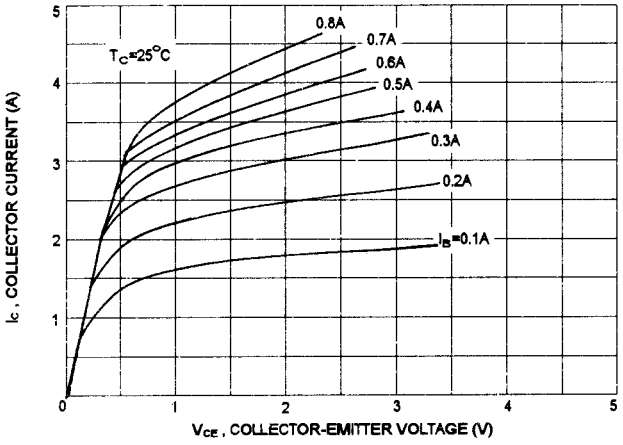
DIM	MILLIMETERS	
	MIN	MAX
A	38.75	39.96
B	19.28	22.23
C	7.96	9.28
D	11.18	12.19
E	25.20	26.67
F	0.92	1.09
G	1.38	1.62
H	29.90	30.40
I	16.64	17.30
J	3.88	4.36
K	10.67	11.18

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

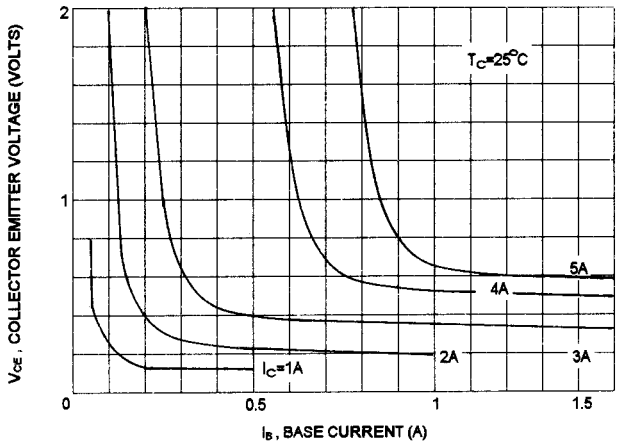
Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage (I_C= 0.1A, I_B= 0, L= 25 mH)	$V_{CEO\ (sus)}$	300		V
Collector Cutoff Current (V_{CE}= 750 V, V_{BE}= 0)	I_{CES}		500	uA
Emitter Cutoff Current (V_{BE}= 6.0 V, I_C= 0)	I_{EBO}		5.0	mA
ON CHARACTERISTICS (1)				
DC Current Gain (I_C= 1.0 A, V_{CE}=5.0 V)	hFE	15	60	
Collector-Emitter Saturation Voltage (I_C= 2.5 A, I_B=0.25 A) (I_C= 4.0A,I_B=1.0 A)	$V_{CE(sat)}$		10 5.0	V
Base-Emitter Saturation Voltage (I_C= 4.0 A, I_B=1.0 A)	$V_{BE(sat)}$		1.5	V
DYNAMIC CHARACTERISTICS				
Current Gain-Bandwidth Prodct (I_C=200 mA, V_{CE}=10 V, f= 1MHz)	f_T	4.0(typ)		MHz
SWITCHING CHARACTERISTICS				
Storage Time	I_C= 2.5A,V_{CC}= 50V	t_s	3.0	us
Fall Time	I_{B1}=-I_{B2}= 0.25A	t_f	0.9	us

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

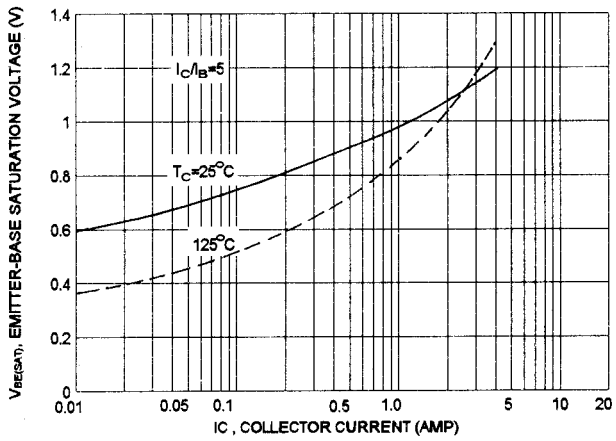
Ic - Vce



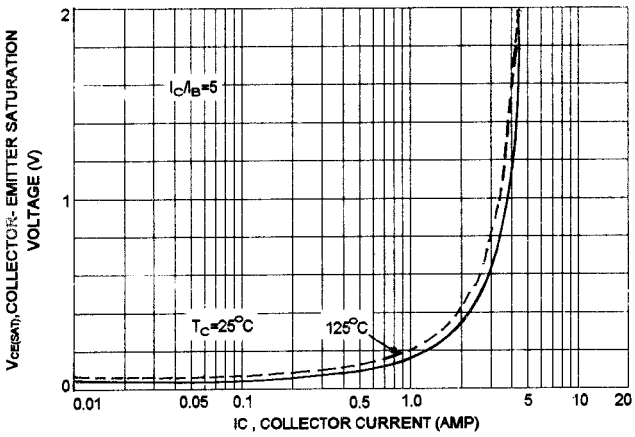
COLLECTOR SATURATION REGION



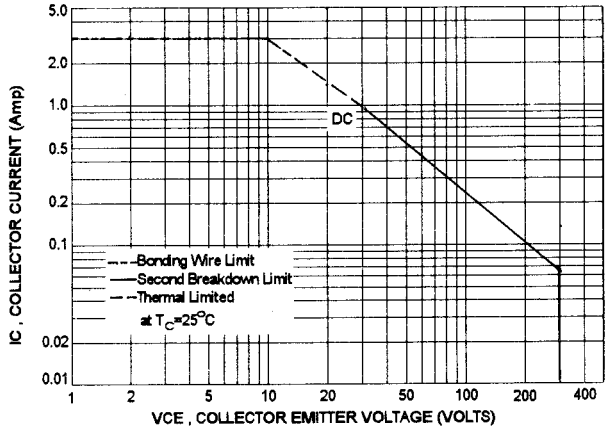
$V_{BE(sat)}$ - I_C



$V_{CE(sat)}$ - I_C



ACTIVE-REGION SAFE OPERATING AREA (SOA)



There are two limitation on the power handling ability of a transistor:average junction temperature and second breakdown safe operating area curves indicate I_C-V_{CE} limits of the transistor that must be observed for reliable operation i.e., the transistor must not be subjected to greater dissipation than curves indicate.

The data of SOA curve is base on $T_{J(PK)}$=150 °C;T_C is variable depending on conditions. second breakdown pulse limits are valid for duty cycles to 10% provided $T_{J(PK)}$≤150°C,At high case temperatures, thermal limita - tion will reduce the power that can be handled to values less than the limitations imposed by second breakdown.

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