

FAST NPN SWITCHING TRANSISTOR

high speed transistors suited for low voltage application:

- * High Frequency and Efficiency Converters
- * Switching Regulators
- * Motor Control

FEATURES

- * Low Saturation Voltage
- * Fast Turn-on and Turn-off

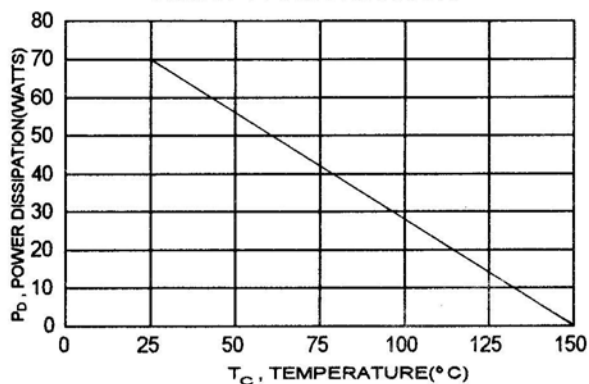
MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	200	V
Collector-Base Voltage	V_{CBO}	400	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous	I_C	10	A
Base Current-Continuous	I_B	2.0	A
Total Power Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	70 0.56	W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

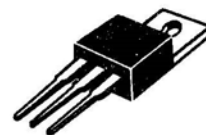
Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	1.785	$^\circ\text{C/W}$

FIGURE -1 POWER DERATING

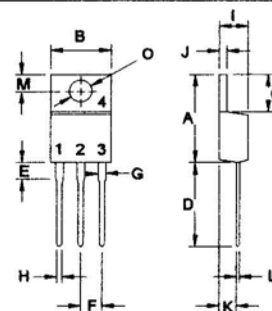


NPN
BUV28

10 AMPERE
POWER TRANSISTOR
NPN SILICON
200 VOLTS
70 WATTS



TO-220



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

DIM	MILLIMETERS	
	MIN	MAX
A	14.68	16.00
B	9.78	10.42
C	5.02	6.60
D	13.00	14.62
E	3.10	4.19
F	2.41	2.67
G	1.10	1.67
H	0.69	1.01
I	3.21	4.98
J	1.14	1.40
K	2.20	3.30
L	0.28	0.61
M	2.48	3.00
O	3.50	4.00

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C = 30\text{ mA}$, $I_B = 0$)	$V_{(BR)CEO}$	200		V
Collector Cutoff Current ($V_{CB} = 300\text{ V}$, $I_E = 0$)	I_{CBO}		1.0	mA
Emitter Cutoff Current ($V_{EB} = 5.0\text{ V}$, $I_C = 0$)	I_{EBO}		1.0	mA

ON CHARACTERISTICS (1)

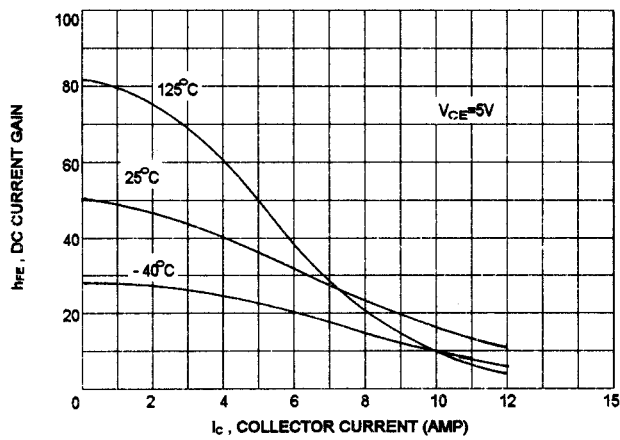
Collector-Emitter Saturation Voltage ($I_C = 3.0\text{ A}$, $I_B = 300\text{ mA}$) ($I_C = 6.0\text{ A}$, $I_B = 600\text{ mA}$)	$V_{CE(sat)}$		0.7 1.5	V
Base-Emitter Saturation Voltage ($I_C = 6.0\text{ A}$, $I_B = 600\text{ mA}$)	$V_{BE(sat)}$		2.0	V

SWITCHING CHARACTERISTICS

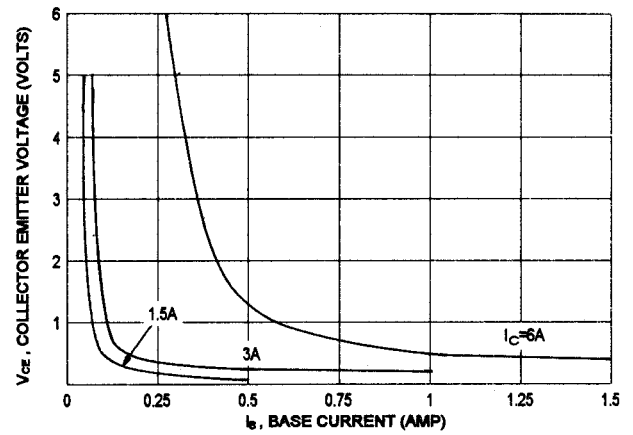
Turn-On Time	$V_{CC} = 150\text{ V}$, $I_C = 5.0\text{ A}$ $I_{B1} = -I_{B2} = 0.5\text{ A}$	t_{on}		1.0	us
Storage Time		t_s		1.5	us
Fall Time		t_f		0.3	us

(1) Pulse Test: Pulse width $\leq 300\text{ us}$, Duty Cycle $\leq 2.0\%$

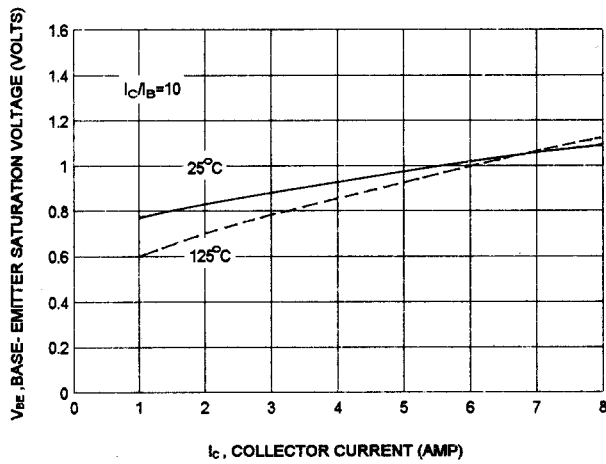
DC CURRENT GAIN



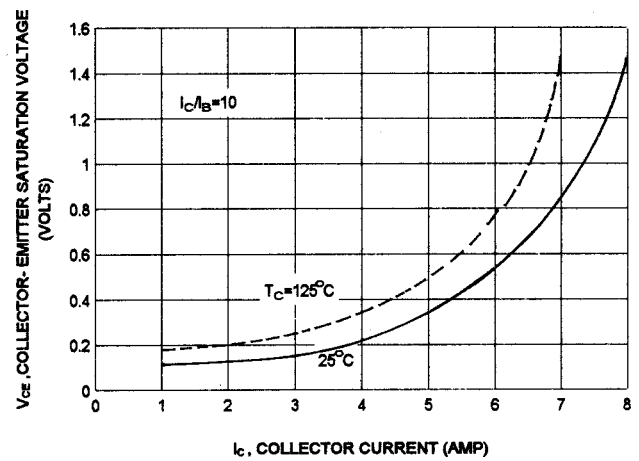
COLLECTOR SATURATION REGION



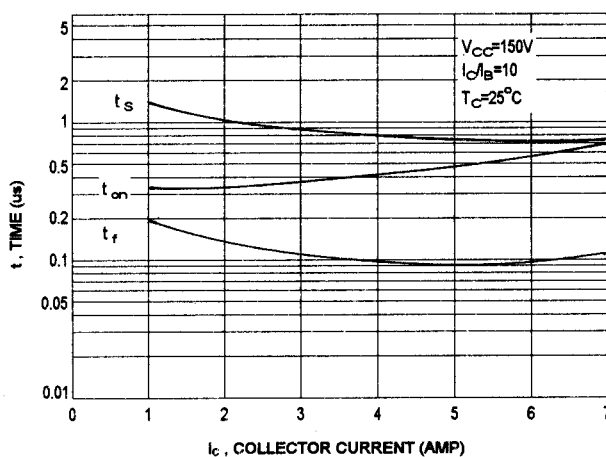
BASE-EMITTER SATURATION VOLTAGE



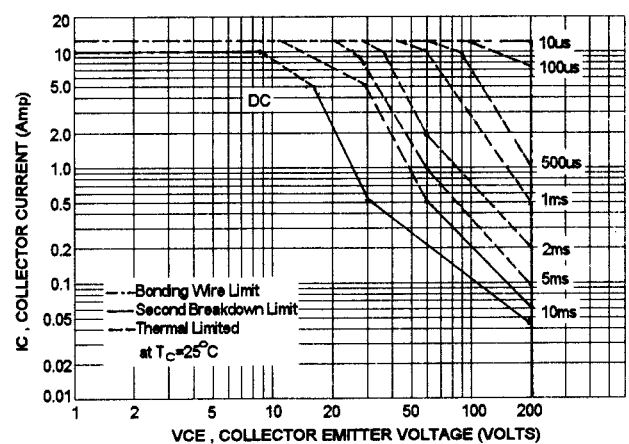
COLLECTOR-EMITTER SATURATION VOLTAGE



SWITCHING TIME



ACTIVE-REGION SAFE OPERATING AREA



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