

Silicon NPN Power Transistors

D44H8

DESCRIPTION

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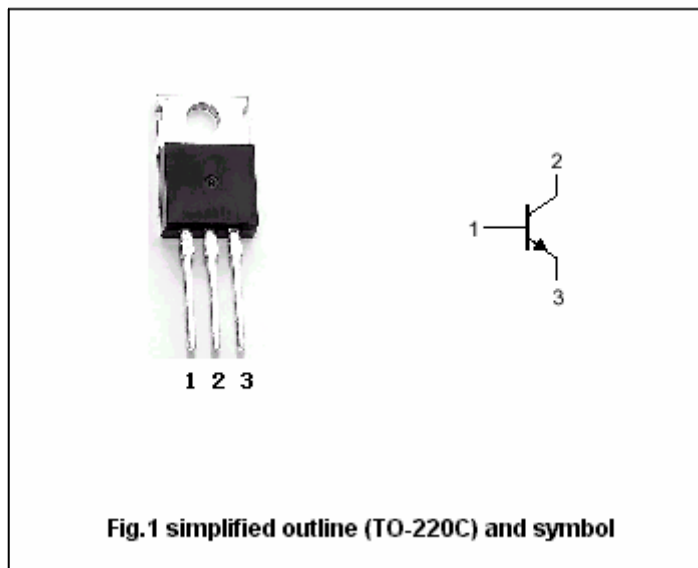
- With TO-220C package
- Fast switching speeds
- Low collector saturation voltage

APPLICATIONS

- For general purpose power amplification and switching regulators, converters and power amplifiers applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

Absolute maximum ratings (T_c=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	60	V
V _{CEO}	Collector-emitter voltage	Open base	60	V
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current (DC)		10	A
I _{CM}	Collector current-Peak		20	A
P _D	Total power dissipation	T _c =25°C	50	W
		T _a =25°C	1.67	
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-c}	Thermal resistance from junction to case	2.5	°C/W

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-emitter sustaining voltage	I _C =10mA I _B =0,	60			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =8A; I _B =0.4A			1.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =8A ; I _B =0.8A			1.5	V
I _{CES}	Collector cut-off current	V _{CE} =60V; V _{BE} =0			10	μA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			0.1	mA
h _{FE-1}	DC current gain	I _C =2A ; V _{CE} =1V	60			
h _{FE-2}	DC current gain	I _C =4A ; V _{CE} =1V	40			
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V		50		MHz
C _{cb}	Collector capacitance	f=1MHz ; V _{CB} =10V		130		pF

Switching times

t _{on}	Turn-on time	I _C =5A I _{B1} =- I _{B2} =0.5A		0.3		μs
t _s	Storage time			0.5		μs
t _f	Fall time			0.14		μs

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PACKAGE OUTLINE

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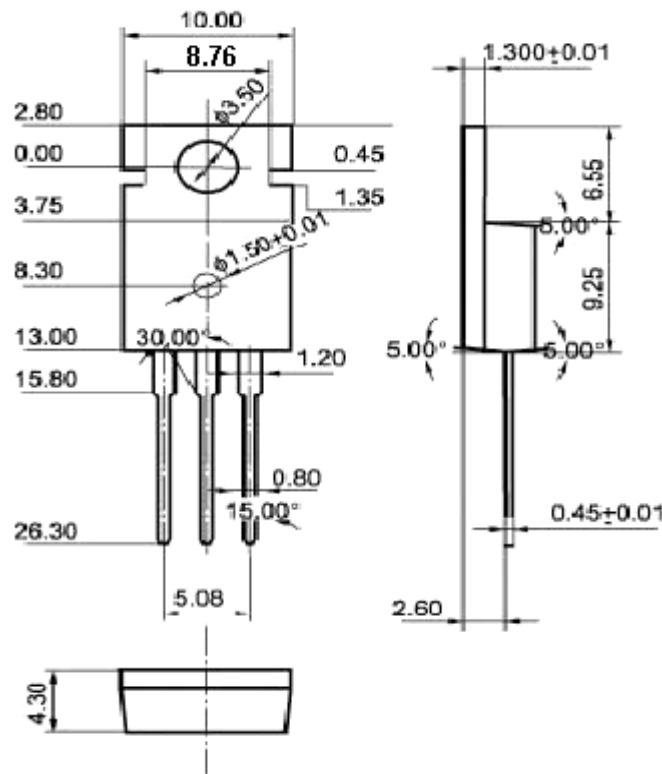


Fig.2 Outline dimensions (unindicated tolerance: $\pm 0.10\text{mm}$)

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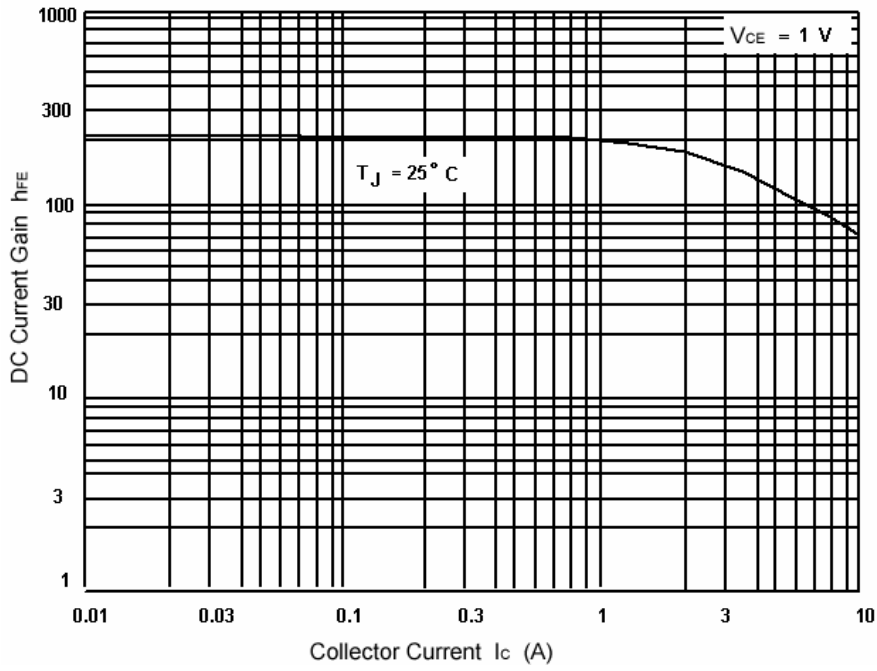


Fig.3 Static Characteristic

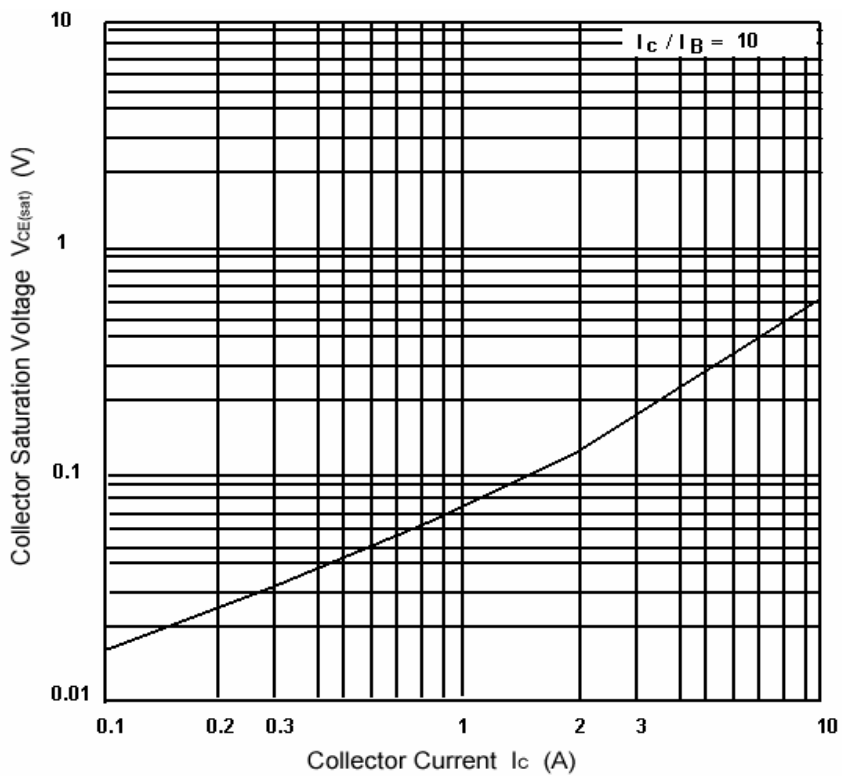


Fig.4 Collector-Emitter Saturation Voltage

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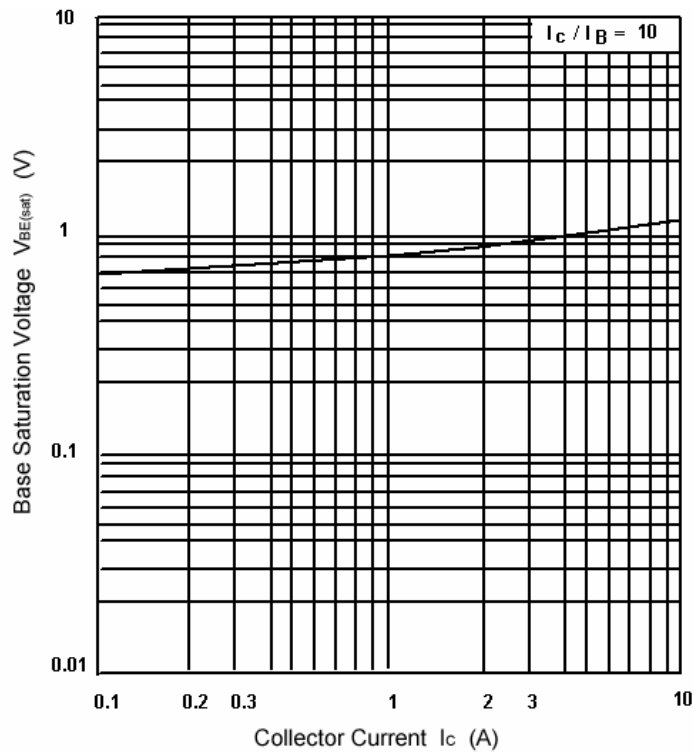


Fig.5 Base-Emitter Saturation Voltage

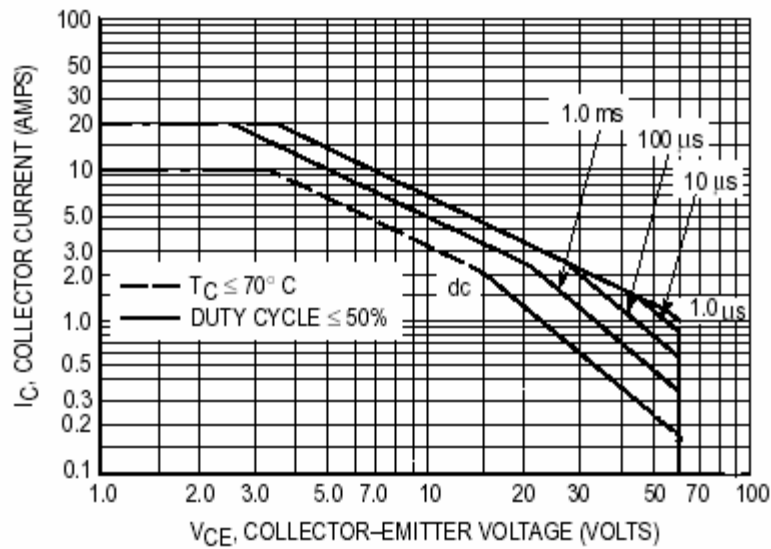


Fig.6 Safe Operating Area