

Silicon NPN Power Transistors

D44H8

DESCRIPTION

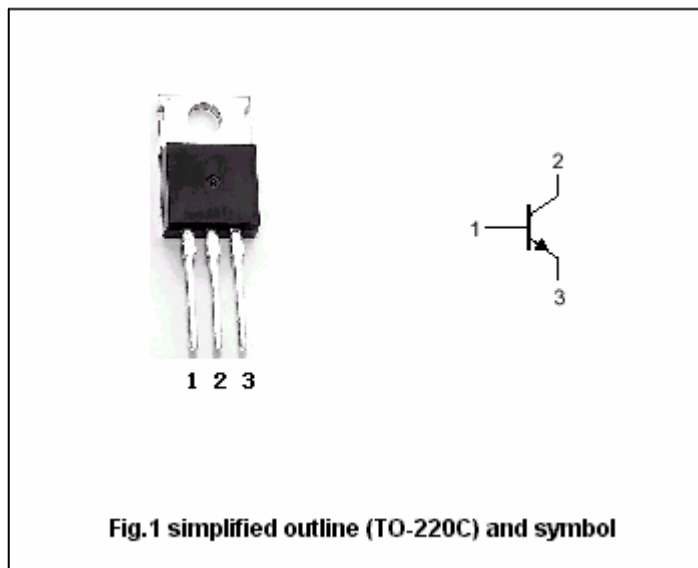
- With TO-220C package
- Fast switching speeds
- Low collector saturation voltage

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 ($T_c=25^\circ\text{C}$)

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	$T_c=25$	50	W
		$T_a=25$	1.67	
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-C}$	Thermal resistance from junction to case	2.5	/W

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CHARACTERISTICS

Tj=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	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

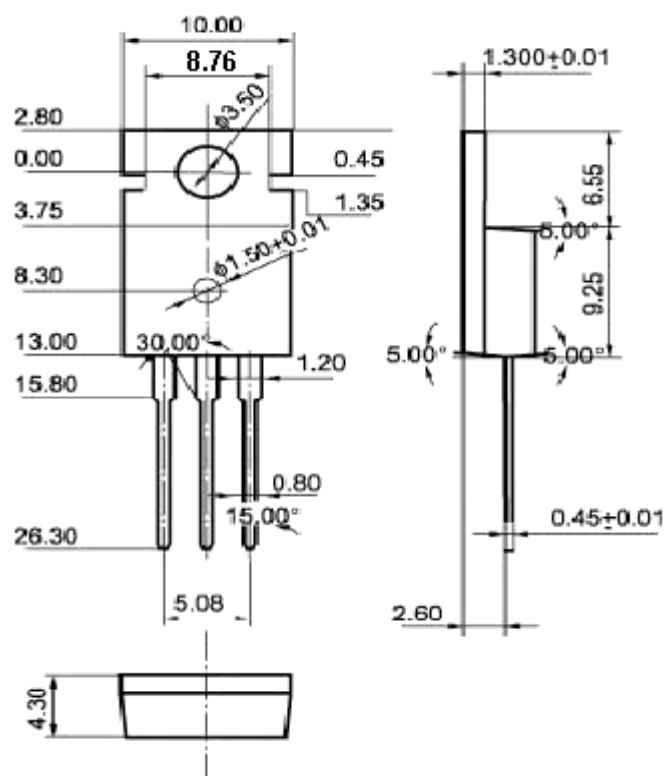


Fig.2 Outline dimensions (unindicated tolerance: $\pm 0.10\text{mm}$)

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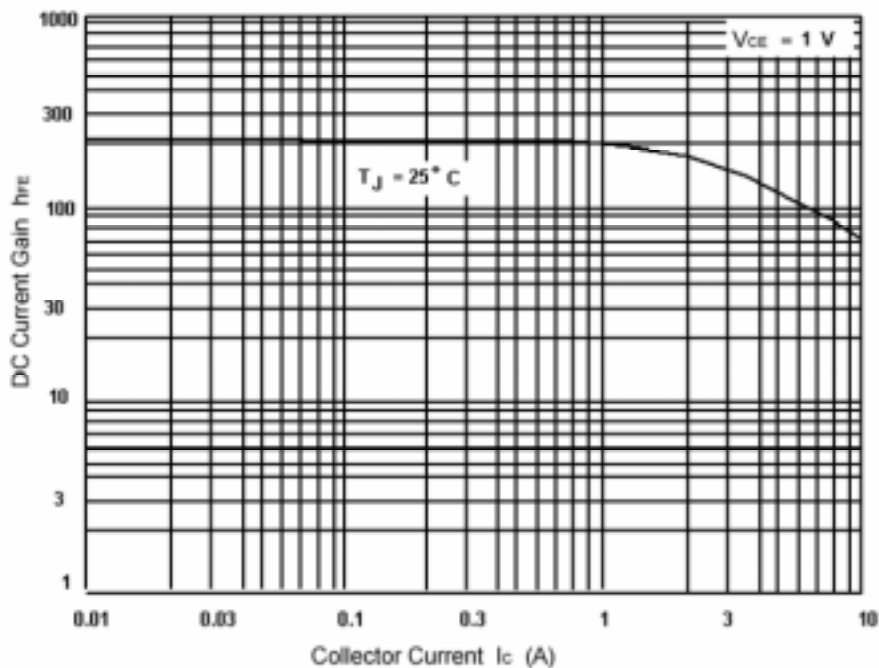


Fig.3 Static Characteristic

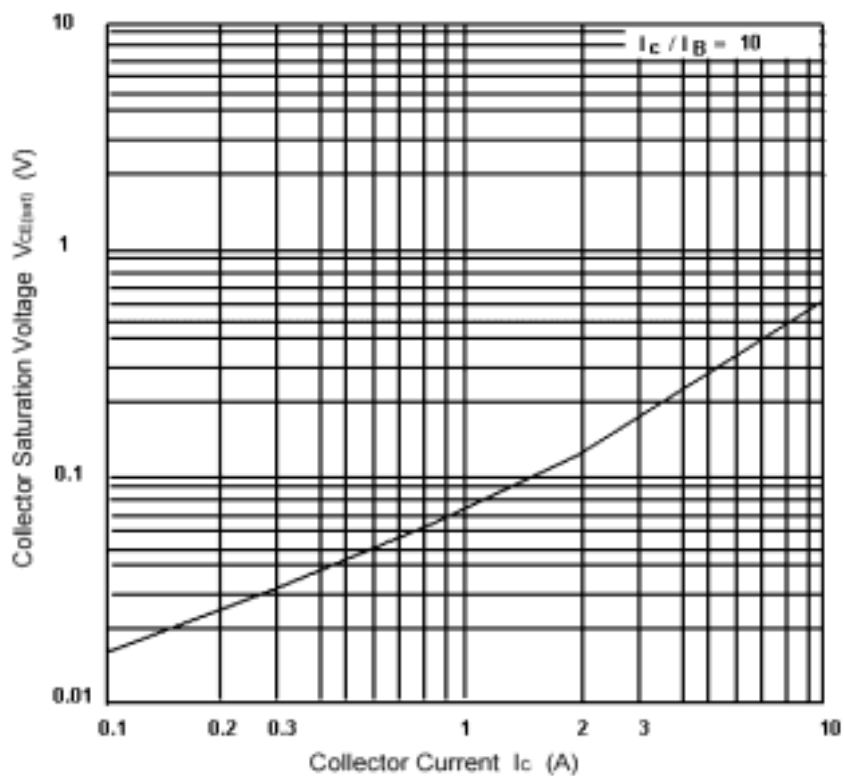


Fig.4 Collector-Emitter Saturation Voltage

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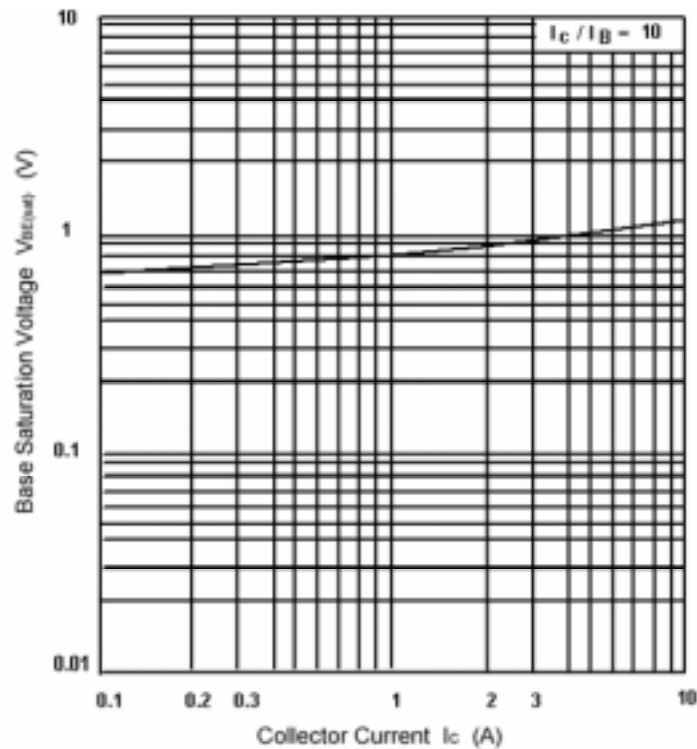


Fig.5 Base-Emitter Saturation Voltage

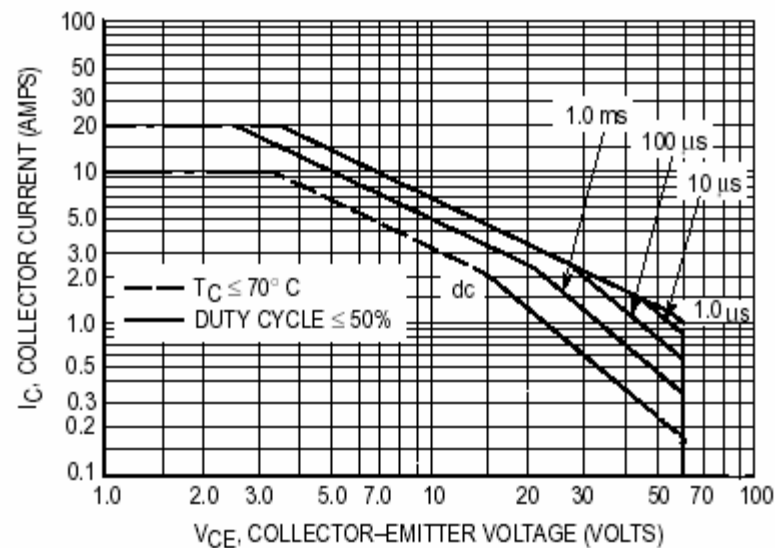


Fig.6 Safe Operating Area