

DESCRIPTION

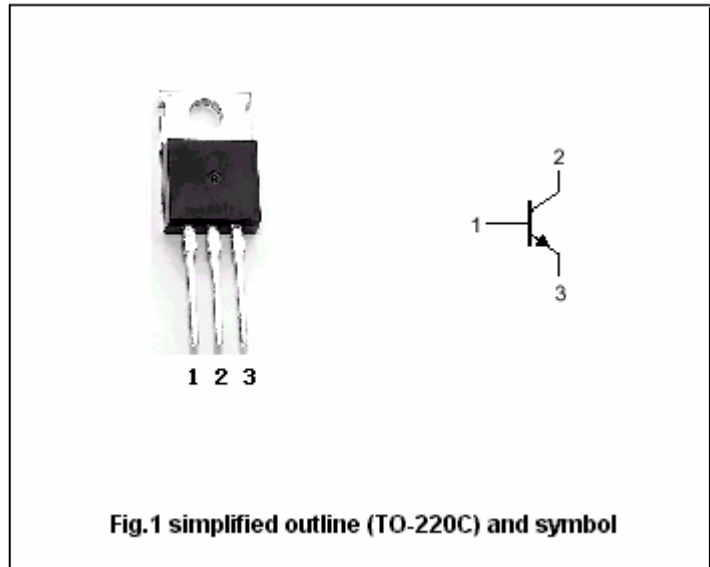
- With TO-220C package
- Fast switching speeds
- Low collector saturation voltage

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 (Tc=25)

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

CHARACTERISTICS

T_j=25 unless otherwise specified

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	μ A
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		μ s
t _s	Storage time			0.5		μ s
t _f	Fall time			0.14		μ s

PACKAGE OUTLINE

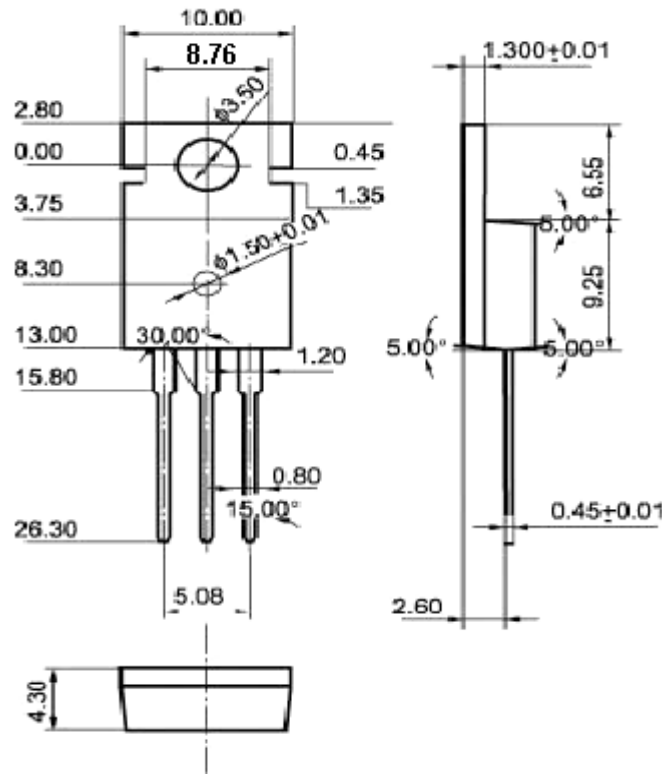


Fig.2 Outline dimensions (unindicated tolerance: $\pm 0.10\text{mm}$)

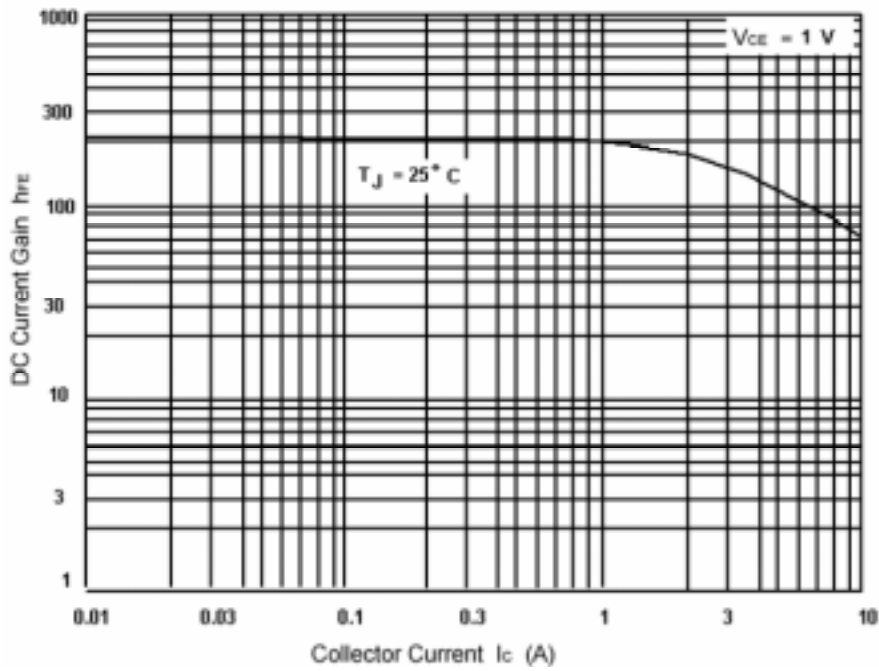


Fig.3 Static Characteristic

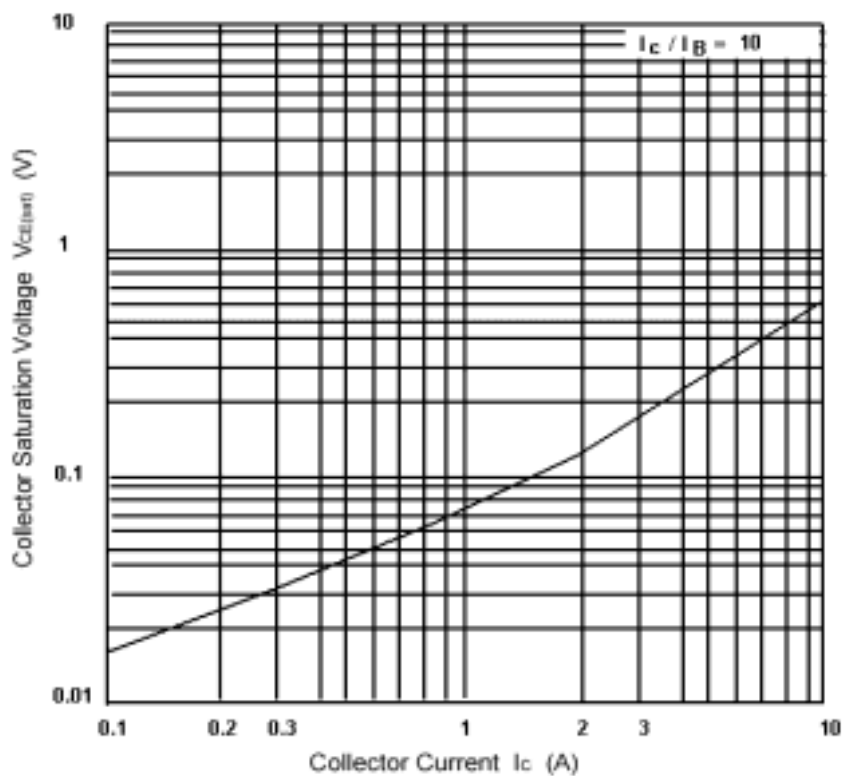


Fig.4 Collector-Emitter Saturation Voltage

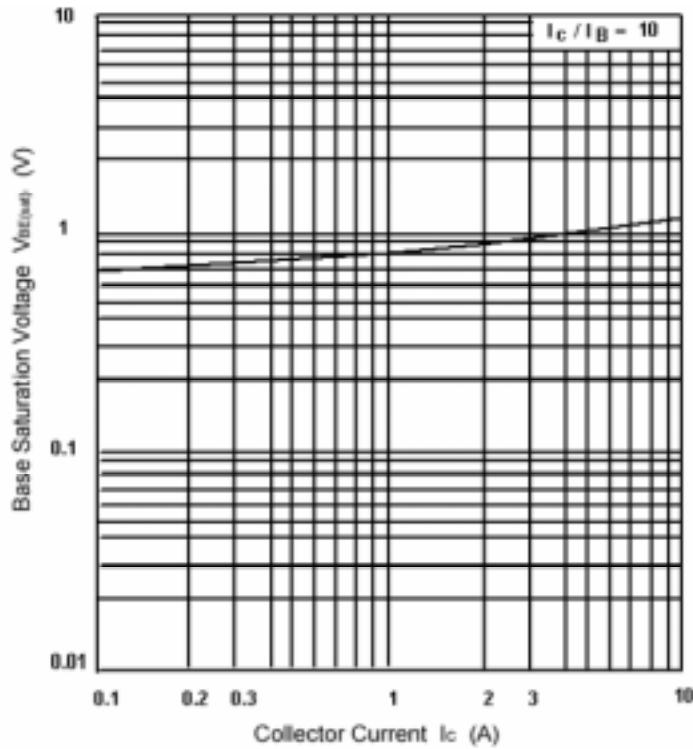


Fig.5 Base-Emitter Saturation Voltage

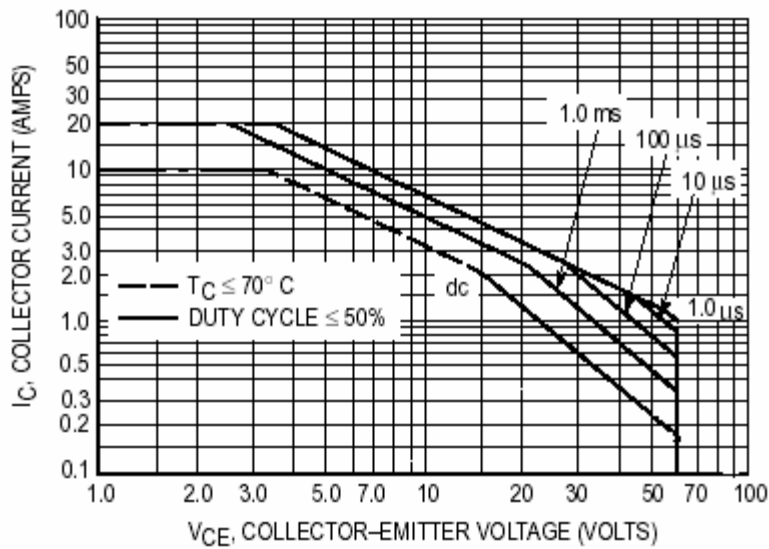


Fig.6 Safe Operating Area

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