

Silicon NPN Power Transistors

2SC3310

DESCRIPTION

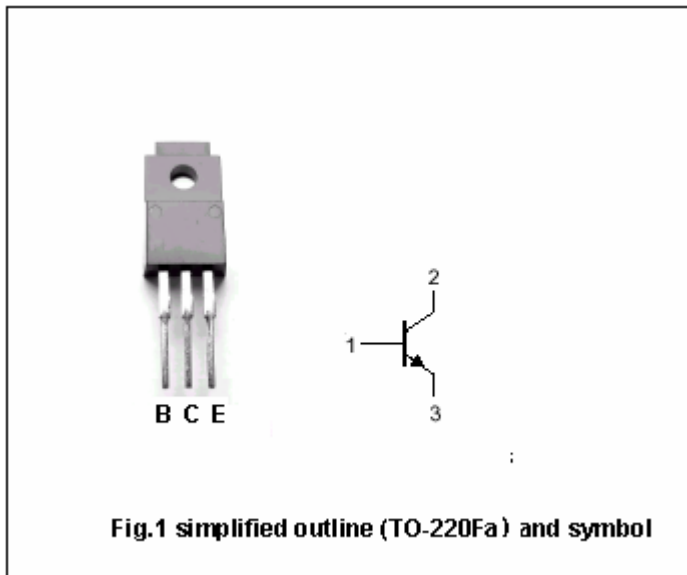
- With TO-220Fa package
- High collector breakdown voltage
- Excellent Switching times

APPLICATIONS

- Switching regulator
- High speed DC-DC converter
- High voltage switching

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings(Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	500	V
V _{CEO}	Collector-emitter voltage	Open base	400	V
V _{EBO}	Emitter-base voltage	Open collector	7	V
I _C	Collector current (DC)		5	A
I _{CM}	Collector current (pulse)		7	A
I _B	Base current (DC)		1	A
P _C	Collector power dissipation	T _a =25	2	W
		T _C =25	30	
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =1mA ; I _E =0	500			V
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA ; I _B =0	400			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =5A ; I _B =1A			1.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =5A ; I _B =1A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =400V; I _E =0			100	μA
I _{EBO}	Emitter cut-off current	V _{EB} =7V; I _C =0			1	mA
h _{FE-1}	DC current gain	I _C =3A ; V _{CE} =5V	12			
h _{FE-2}	DC current gain	I _C =5A ; V _{CE} =5V	8			

Switching times

T _r	Rise time	I _C =4A ; I _{B1} =-I _{B2} =0.4A V _{CC} 200V; R _L =10			1.0	μs
t _s	Storage time				2.5	μs
t _f	Fall time				1.0	μs

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PACKAGE OUTLINE

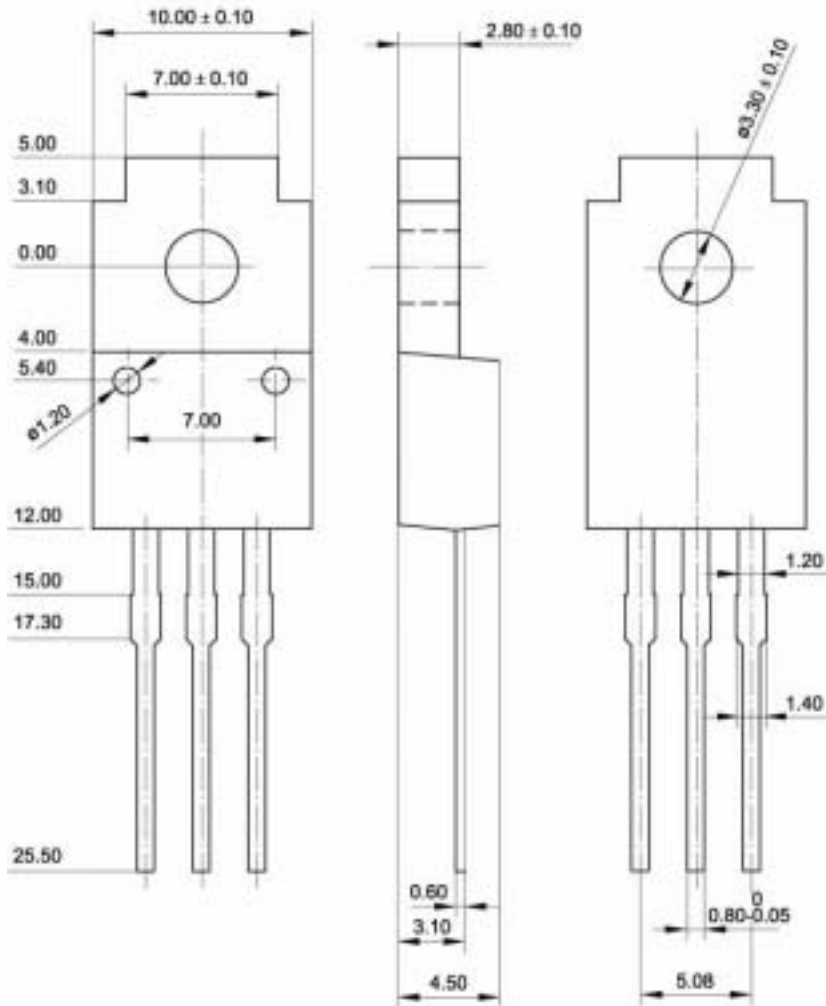


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)

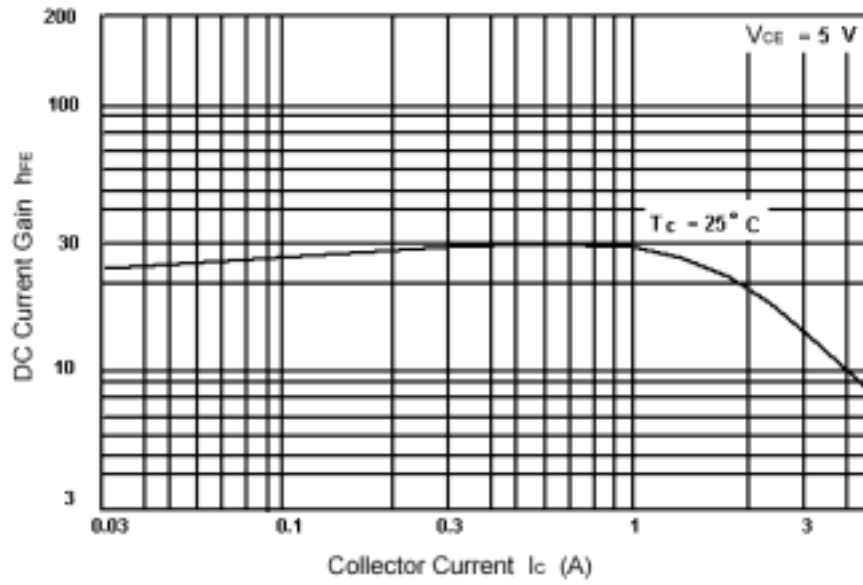


Fig.3 DC current Gain

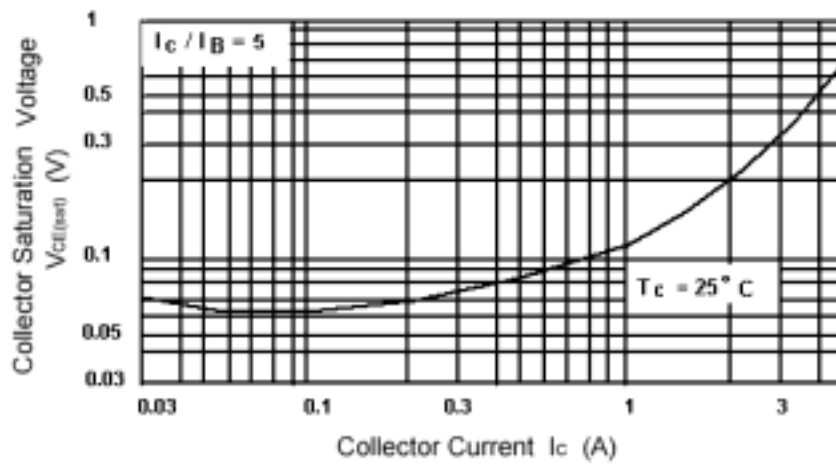


Fig.4 Collector-Emitter Saturation Voltage

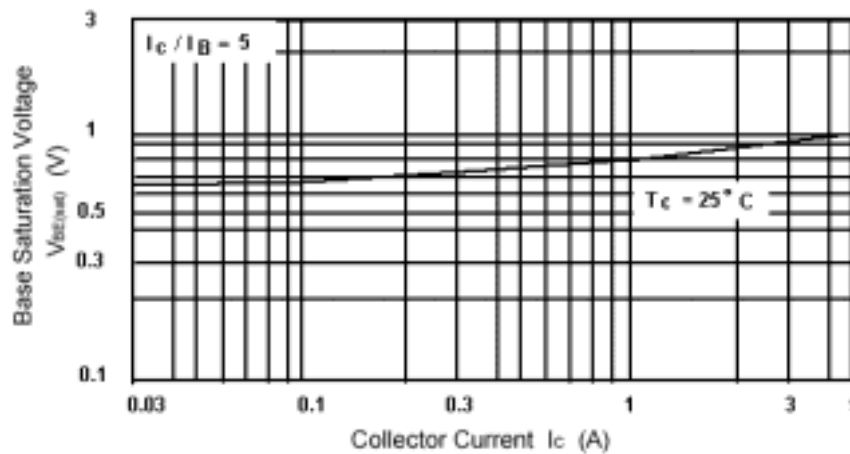


Fig.5 Base-Emitter Saturation Voltage

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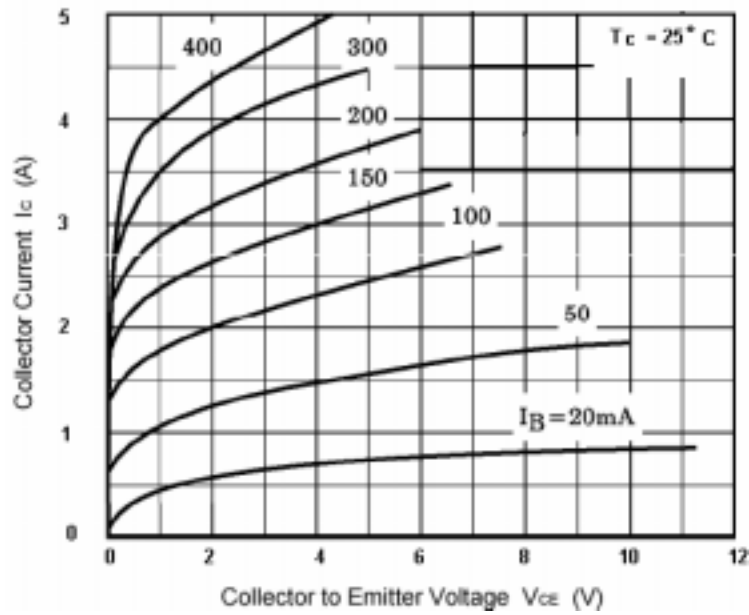


Fig.6 Static Characteristic

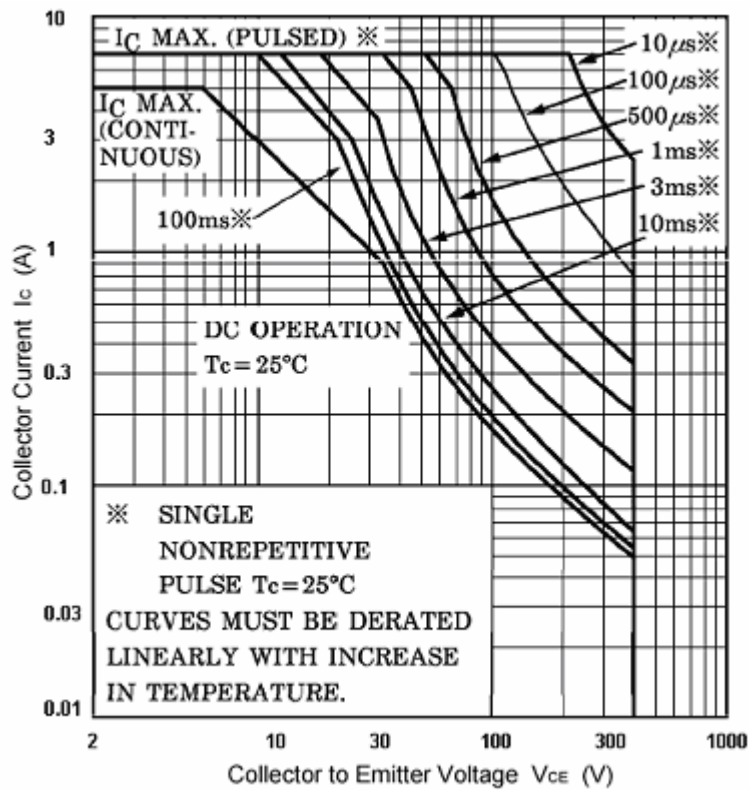


Fig.7 Safe Operating Area