

Silicon NPN Power Transistors

2SC3306

DESCRIPTION

- With TO-3P(I) package
- Collector-emitter sustaining voltage-
 $V_{CEO(sus)}=400V(\text{Min})$
- Fast switching times

APPLICATIONS

- Switching regulator and high voltage switching applications
- High speed DC-DC converter applications

PINNING

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

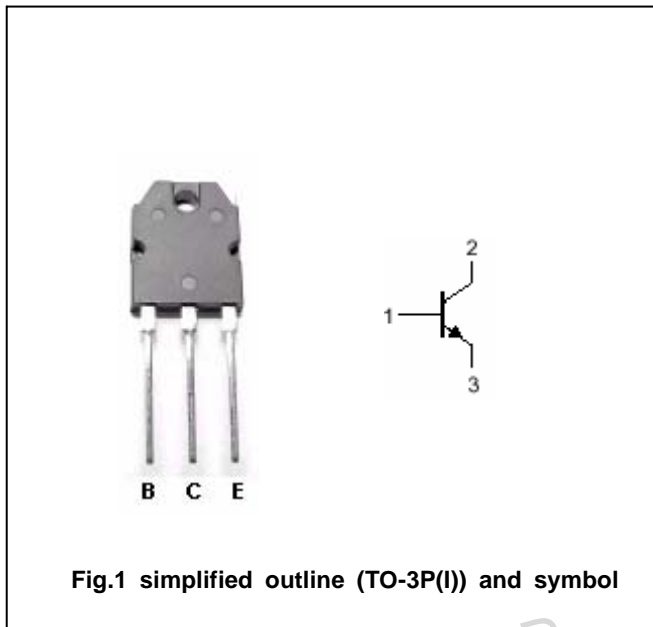


Fig.1 simplified outline (TO-3P(I)) and symbol

Absolute maximum ratings($T_a=25^\circ\text{C}$)

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		10	A
I_{CM}	Collector current-peak		15	A
I_B	Base current		5	A
P_C	Collector power dissipation	$T_c=25$	100	W
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)CEO}	Collector-emitter breakdown voltage	I _C =10mA, I _B =0	400			V
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =1mA, I _E =0	500			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =1mA, I _C =0	7			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =5A; I _B =0.5A			1.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =5A; I _B =0.5A			2.0	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			1.0	mA
h _{FE}	DC current gain	I _C =5A; V _{CE} =5V	10			

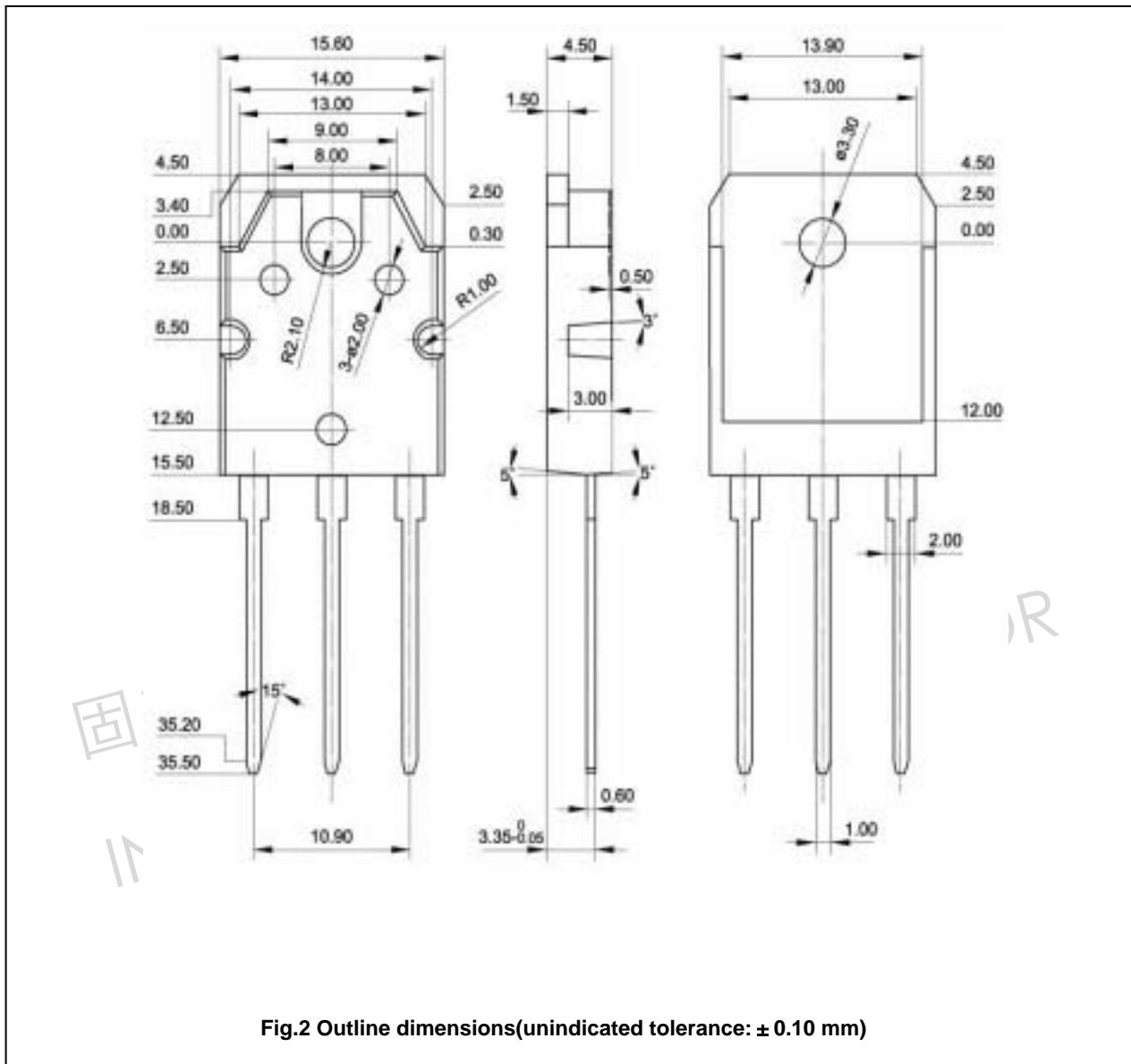
Switching times

t _r	Rise time	V _{CC} =200V; I _C =5.0A I _{B1} =-I _{B2} =0.5A; R _L =40			1.0	μs
t _{stg}	Storage time				2.5	μs
t _f	Fall time				1.0	μs

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PACKAGE OUTLINE



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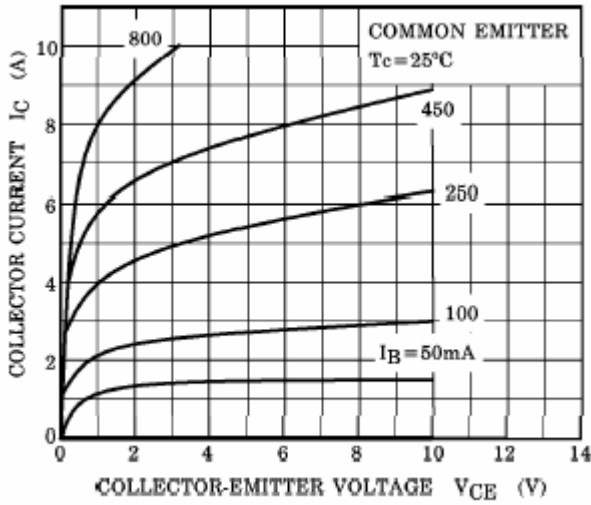


Fig.3 Static Characteristic

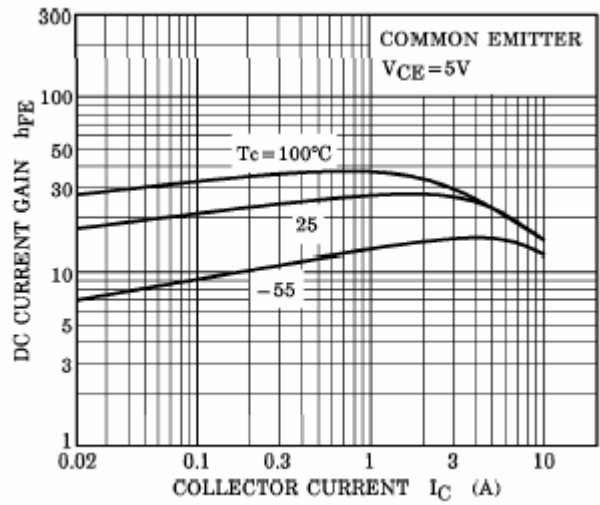


Fig.4 DC current Gain

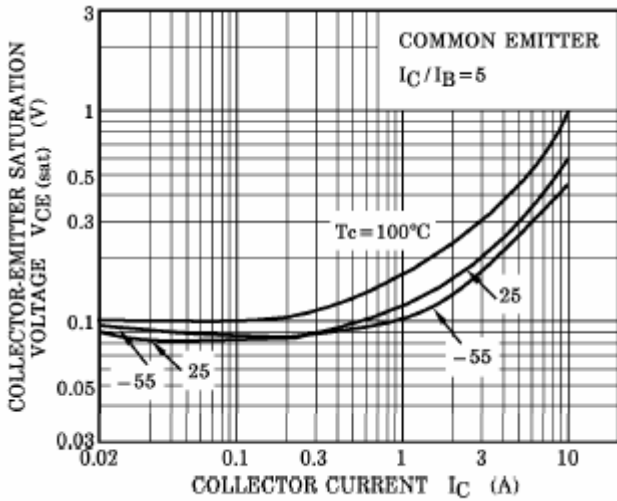


Fig.5 Collector-Emitter Saturation Voltage

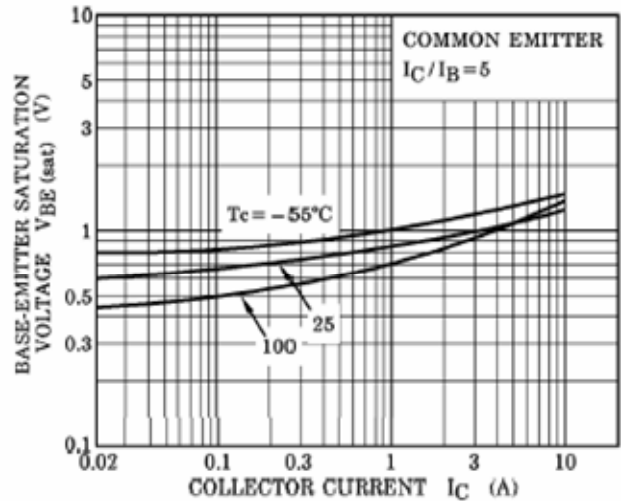


Fig.6 Base-Emitter Saturation Voltage

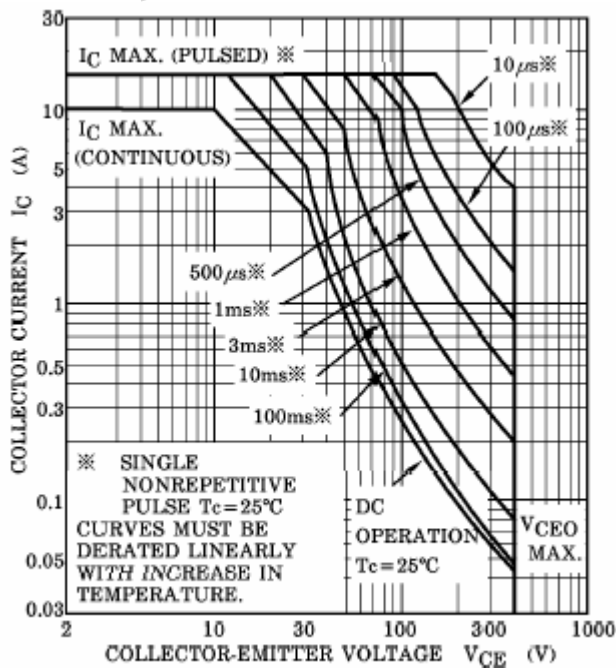


Fig.7 Safe Operating Area