

Silicon NPN Power Transistors

2SC3306

DESCRIPTION

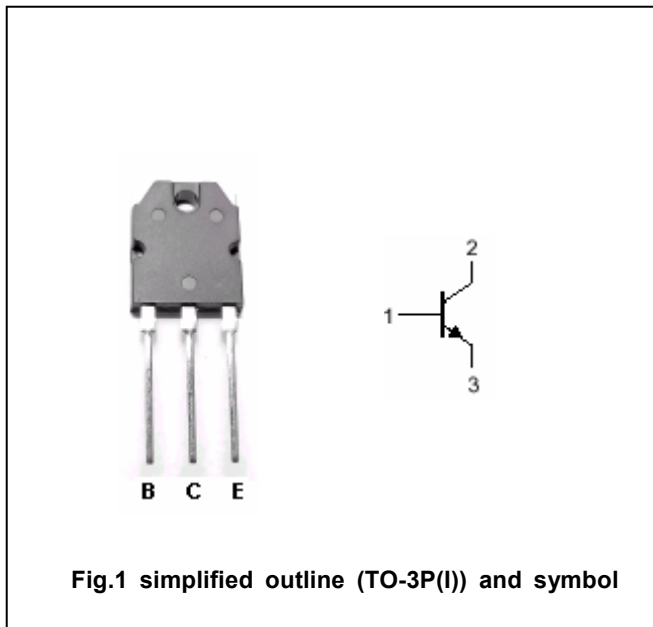
- With TO-3P(I) package
- Collector-emitter sustaining voltage-
 $V_{CEO(sus)}=400V(\text{Min})$
- Fast switching times

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



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	$T_c=25^\circ\text{C}$	100	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C 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	$V_{CC}=200V; I_C=5.0A$ $I_{B1}=-I_{B2}=0.5A; R_L=40 \Omega$			1.0	μs
t_{stg}	Storage time				2.5	μs
t_f	Fall time				1.0	μs

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PACKAGE OUTLINE

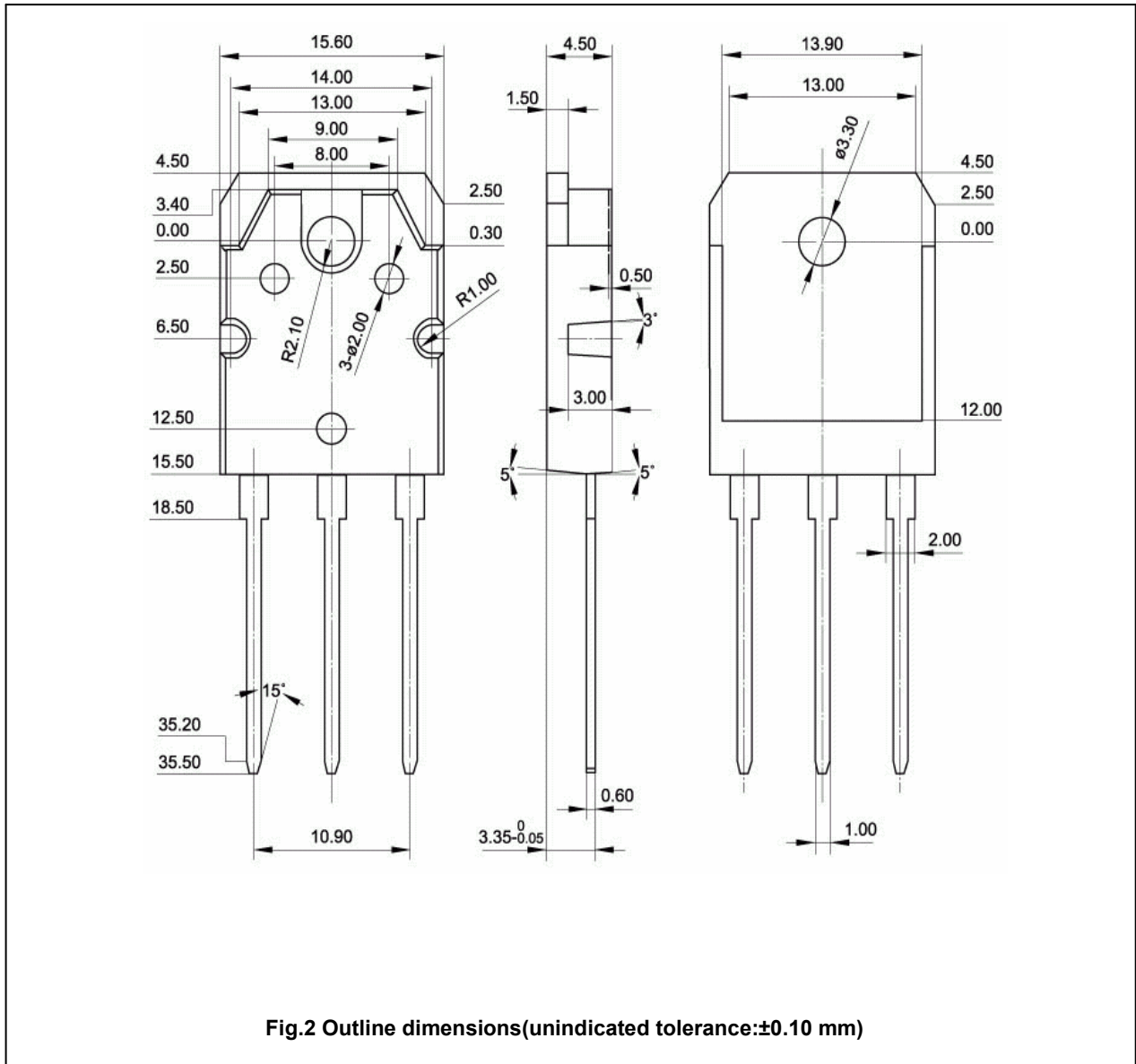


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)

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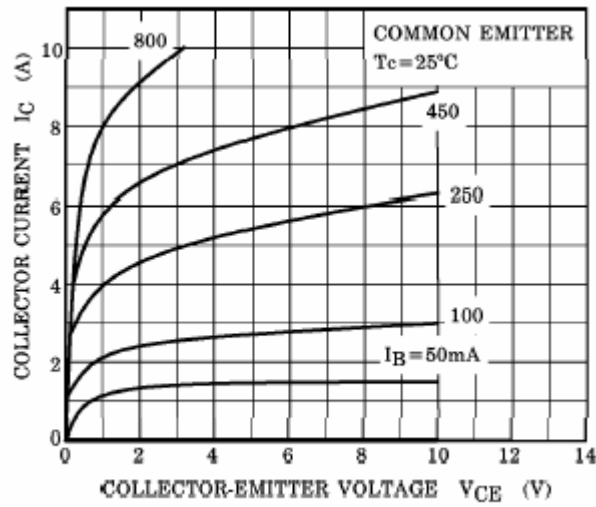


Fig.3 Static Characteristic

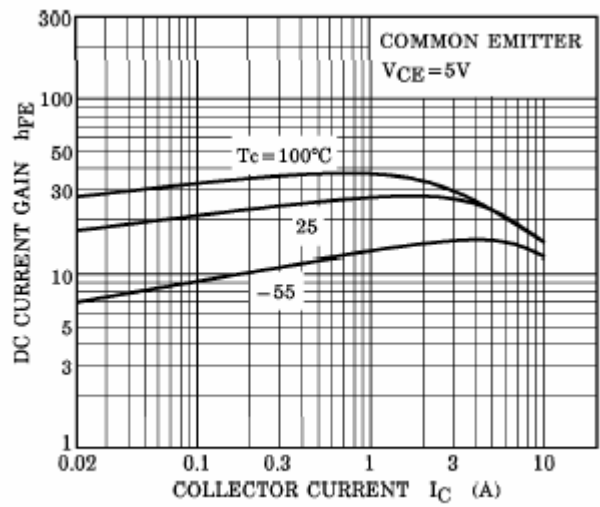


Fig.4 DC current Gain

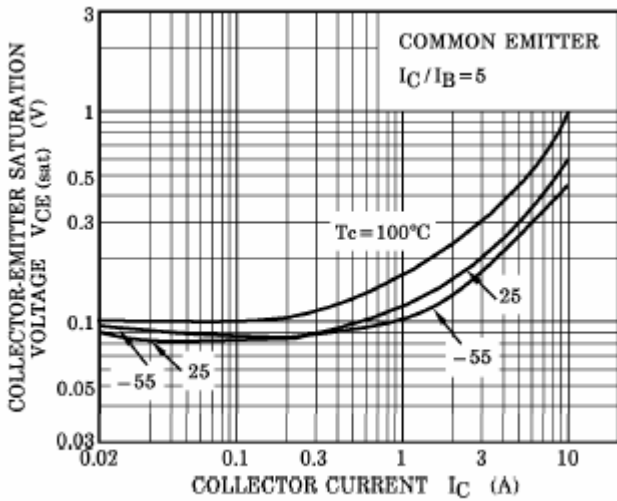


Fig.5 Collector-Emitter Saturation Voltage

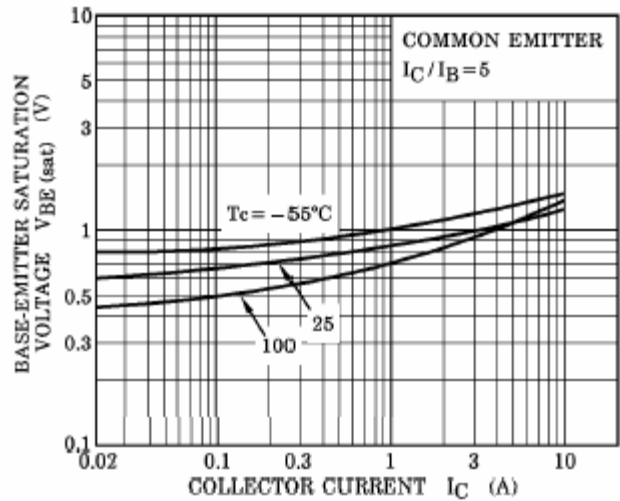


Fig.6 Base-Emitter Saturation Voltage

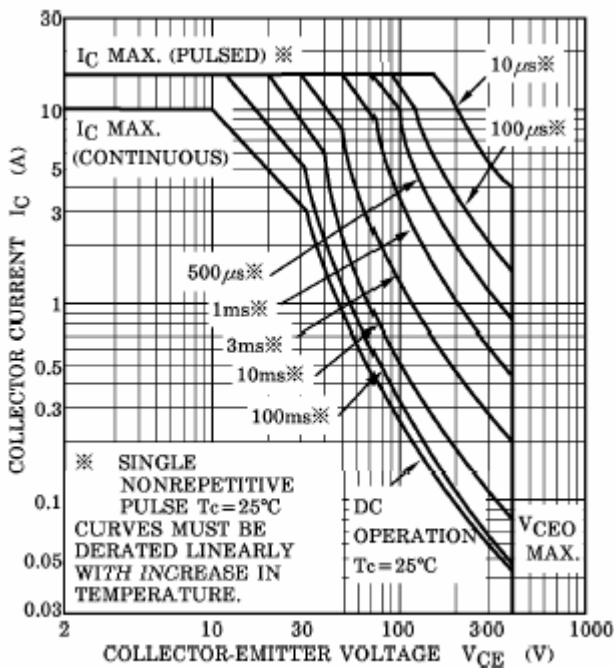


Fig.7 Safe Operating Area