

Silicon NPN Power Transistors

2SC3688

DESCRIPTION

- With TO-3PN package
- High breakdown voltage
- High speed

APPLICATIONS

- Ultrahigh-definition color display horizontal deflection output applications

PINNING

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

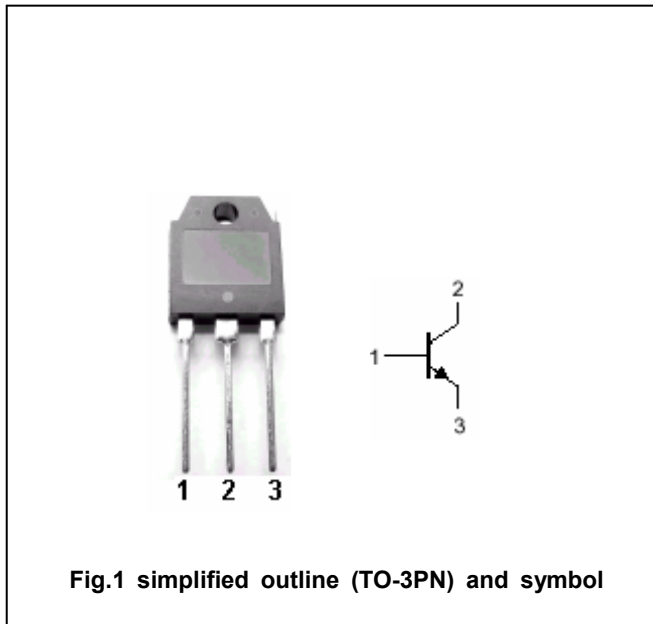


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1500	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	800	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current (DC)		10	A
I <sub>CM</sub>	Collector current-peak		25	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	150	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0A	800			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =8A ; I <sub>B</sub> =2.0A			5.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =8A ; I <sub>B</sub> =2.0A			1.5	V
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =1500V; R <sub>BE</sub> =0V			1.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =4V; I <sub>C</sub> =0A			1.0	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	8			

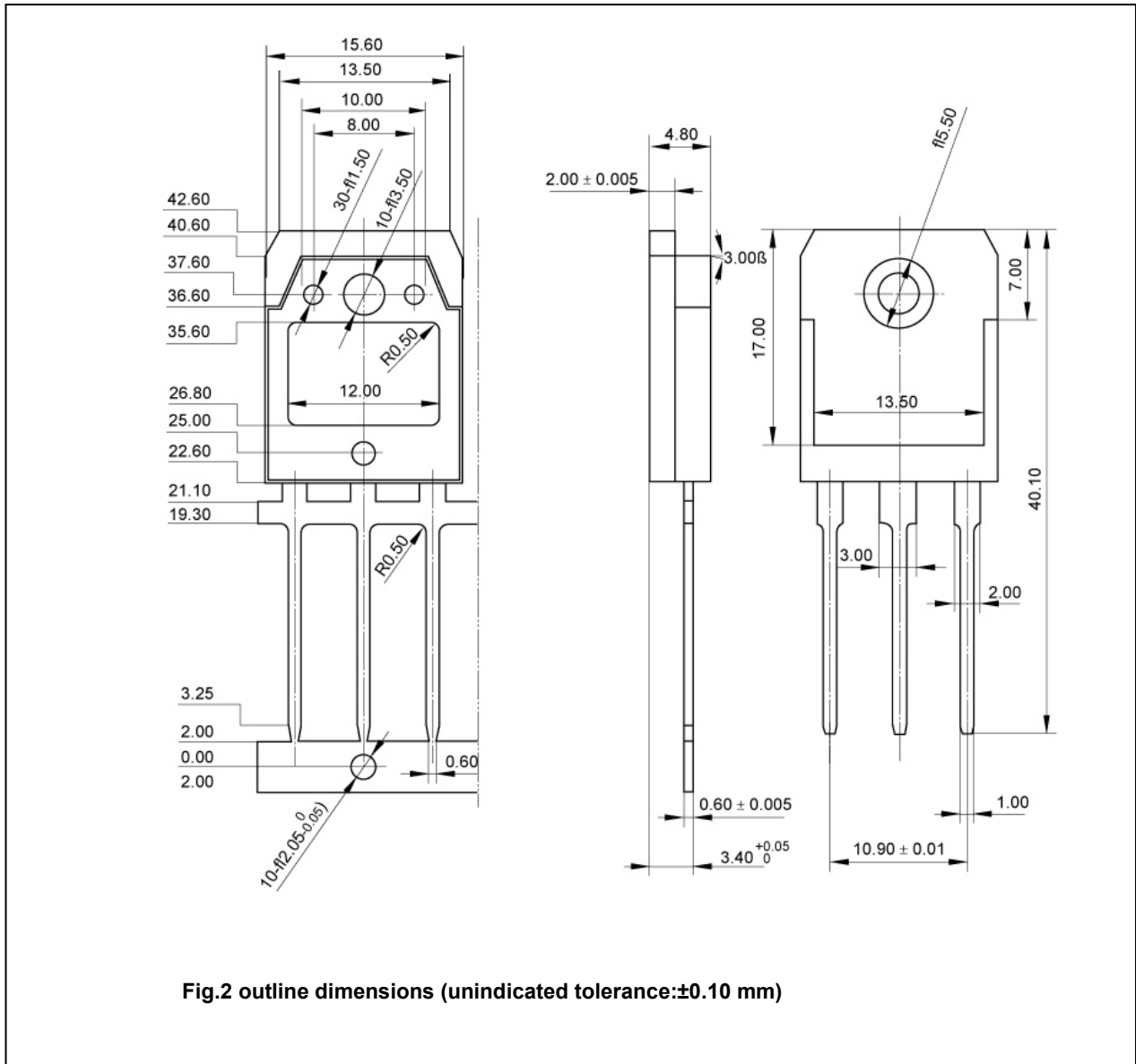
## Switching times

t <sub>s</sub>	Storage time	I <sub>C</sub> =6.0A I <sub>B1</sub> =1.2A; I <sub>B2</sub> =-2.4A V <sub>CC</sub> =200V			3.0	μs
t <sub>f</sub>	Fall time				0.2	μs

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PACKAGE OUTLINE



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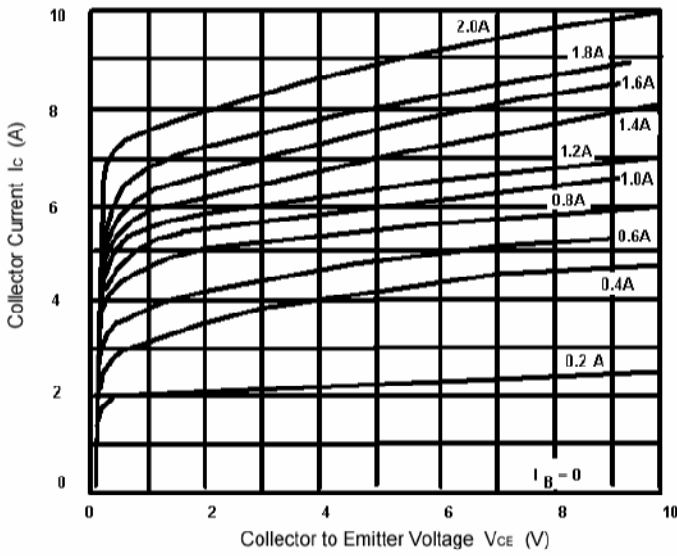


Fig.3 Static Characteristic

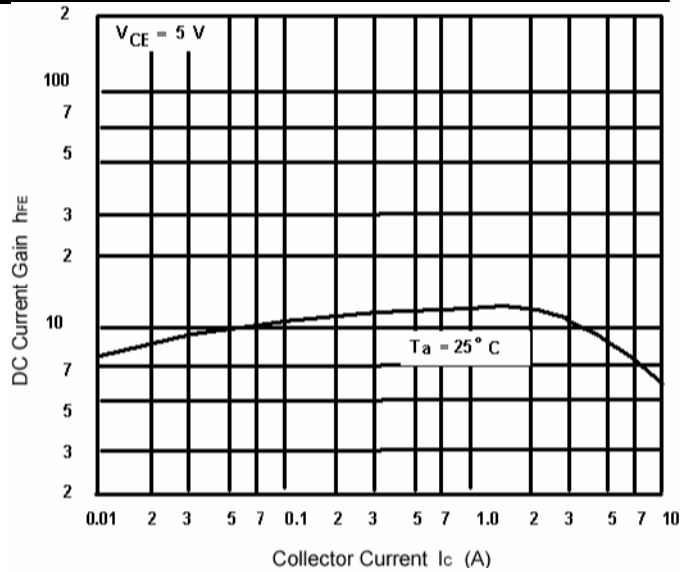


Fig.4 DC current Gain

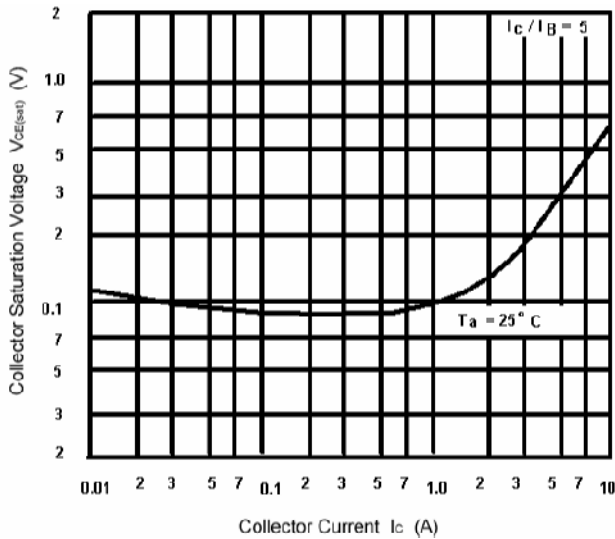


Fig.5 Collector-Emitter Saturation Voltage

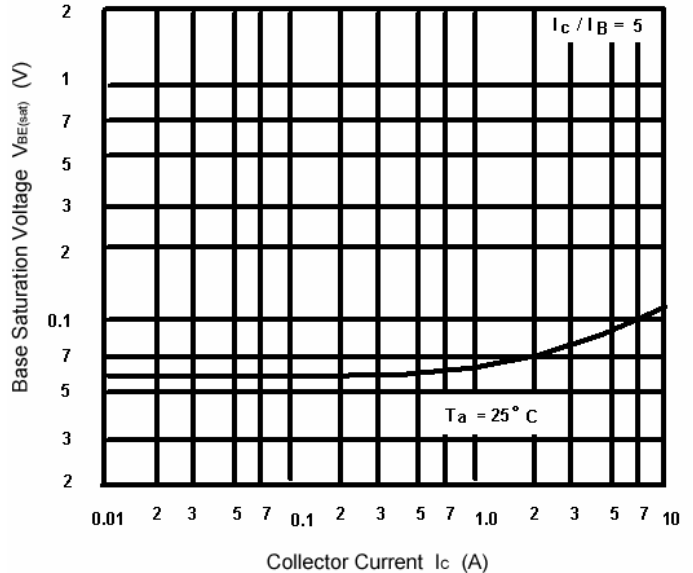


Fig.6 Base-Emitter Saturation Voltage

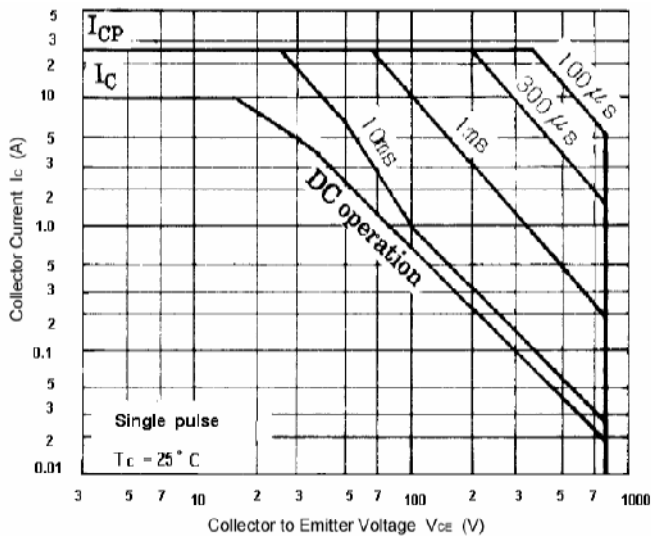


Fig.7 Safe Operating Area