

## Silicon NPN Power Transistors

2N3585

## DESCRIPTION

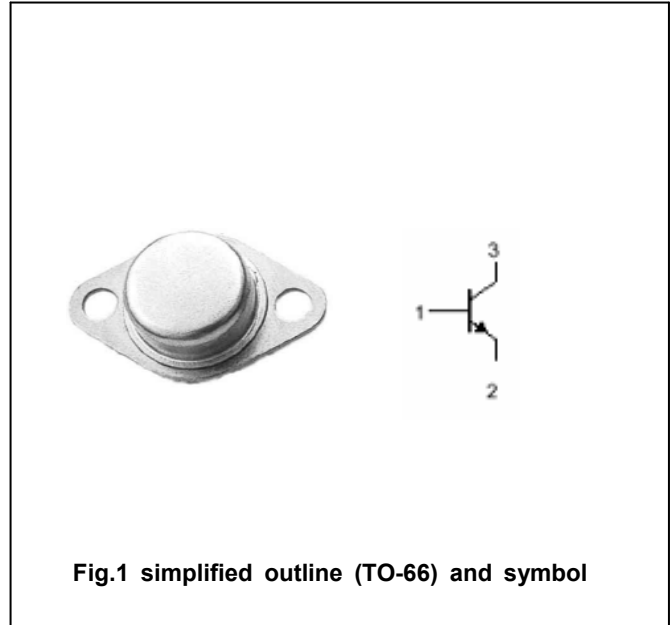
- With TO-66 package
- Continuous collector current- $I_C=2A$
- Power dissipation - $PD=35W$  @ $T_C=25^\circ$
- $V_{CE(SAT)}=0.75V(\text{Max})@I_C=1A;I_B=0.125A$

## APPLICATIONS

- High speed switching and linear amplification
- High-voltage operational amplifiers
- Switching regulators ,converters
- Deflection stages and high fidelity amplifiers

## PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings( $T_a=25^\circ$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	500	V
$V_{CEO}$	Collector-emitter voltage	Open base	300	V
$V_{EBO}$	Emitter-base voltage	Open collector	6	V
$I_C$	Collector current		2	A
$I_{CM}$	Collector current-Peak		5	A
$I_B$	Base current		1	A
$P_T$	Total power dissipation	$T_C=25^\circ$	35	W
$T_j$	Junction temperature		200	$^\circ$
$T_{stg}$	Storage temperature		-65~200	$^\circ$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{thj-c}$	Thermal resistance junction to case	5.0	$^\circ/W$

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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> =0.2A ; I <sub>B</sub> =0	300			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =1A ; I <sub>B</sub> =0.125A			0.75	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =1A ; I <sub>B</sub> =0.1A			1.4	V
V <sub>BE</sub>	Base -emitter on voltage	I <sub>C</sub> =1A ; V <sub>CE</sub> =10V			1.4	V
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =450V ; V <sub>BE(off)</sub> =1.5V V <sub>CE</sub> =300V ; V <sub>BE(off)</sub> =1.5V T <sub>C</sub> =150°C			1.0 3.0	mA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =150V ; I <sub>B</sub> =0			5.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =6V ; I <sub>C</sub> =0			0.5	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.1A ; V <sub>CE</sub> =10V	40			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =2V	8		80	
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =10V	25		100	

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PACKAGE OUTLINE



Fig.2 Outline dimensions

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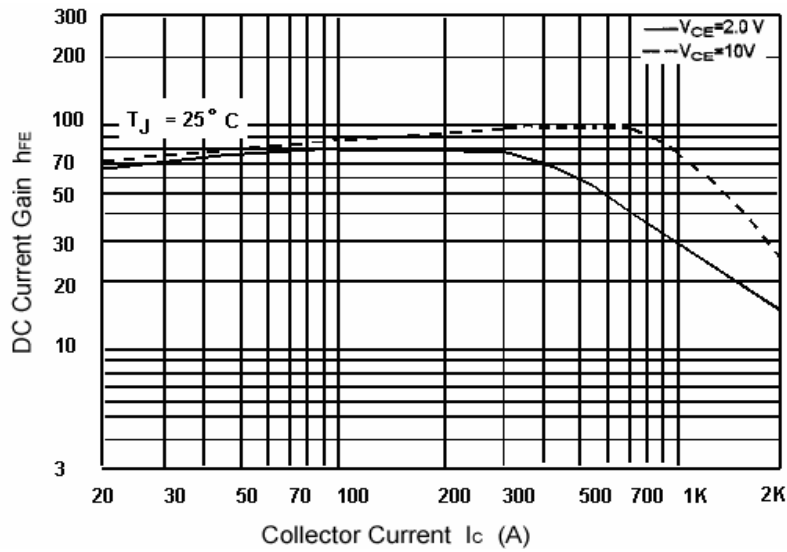


Fig.3 DC current Gain

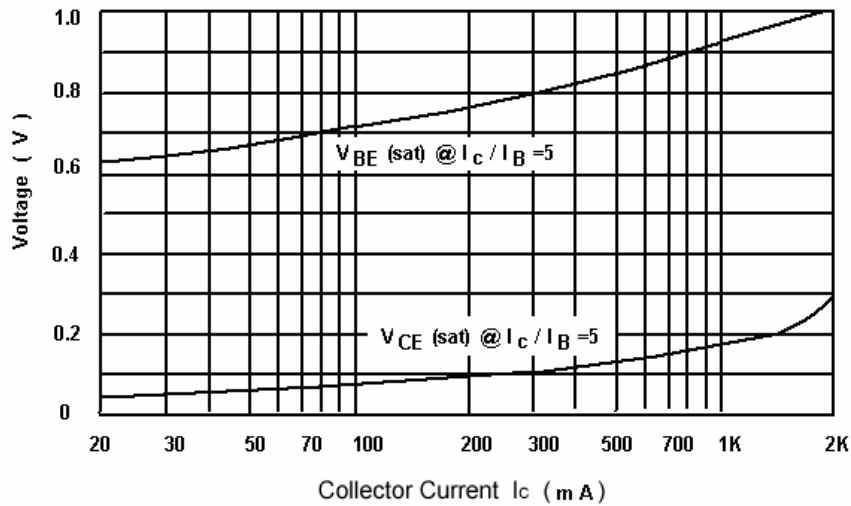


Fig.4 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

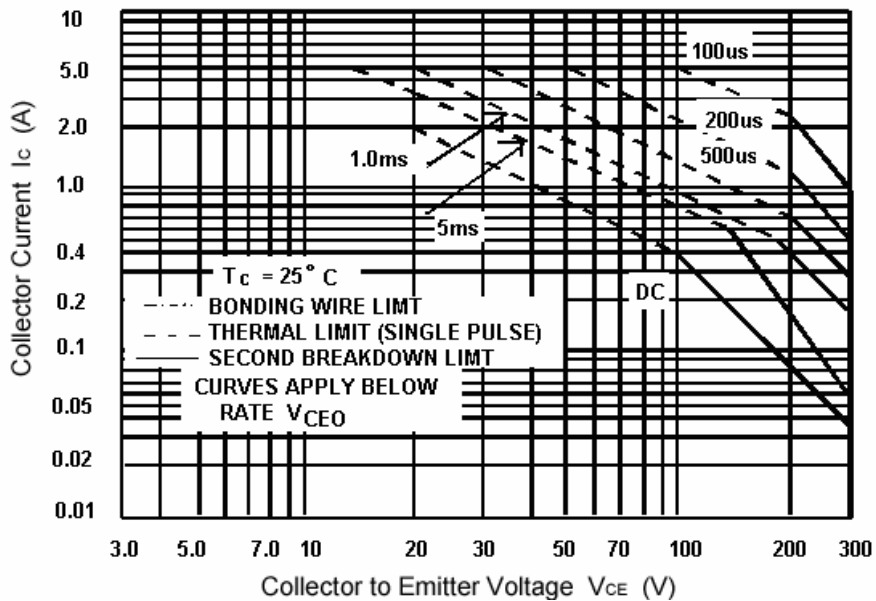


Fig.5 Safe Operating Area