

Silicon NPN Power Transistors

2SC2908

DESCRIPTION

- With TO-3PN package
- Low collector saturation voltage

APPLICATIONS

- For use in power amplifier and switching circuits applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

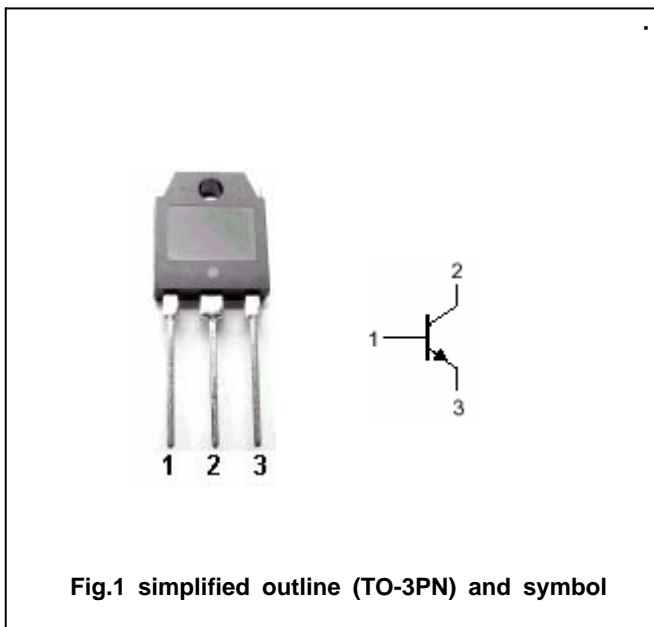


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Ta=25 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	200	V
$V_{CEO}$	Collector-emitter voltage	Open base	100	V
$V_{EBO}$	Emitter-base voltage	Open collector	12	V
$I_C$	Collector current		5.0	A
$I_{CM}$	Collector current-peak		10	A
$I_B$	Base current		2.5	A
$P_C$	Collector power dissipation	$T_C=25$	50	W
		Derate above 25	0.4	W/
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-55~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-C}$	Thermal resistance junction case	2.5	/W

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE0(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =3.0A ; I <sub>B1</sub> =0.3A; L=1.0mH	100			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A ; I <sub>B</sub> =300mA			1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =3A ; I <sub>B</sub> =300mA			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =100V; I <sub>E</sub> =0			10	μA
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =100V; V <sub>BE</sub> =-1.5V			10	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			10	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.3A ; V <sub>CE</sub> =5V	60		320	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =3A ; V <sub>CE</sub> =5V	40			

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =3A; V <sub>CC</sub> =30V I <sub>B1</sub> =0.3A, I <sub>B2</sub> =-0.3A RL=10Ω			0.5	μs
t <sub>s</sub>	Storage time				2.0	μs
t <sub>f</sub>	Fall time				1.0	μs

◆ h<sub>FE-1</sub> Classifications

M	L	K
60-120	100-200	160-320

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PACKAGE OUTLINE

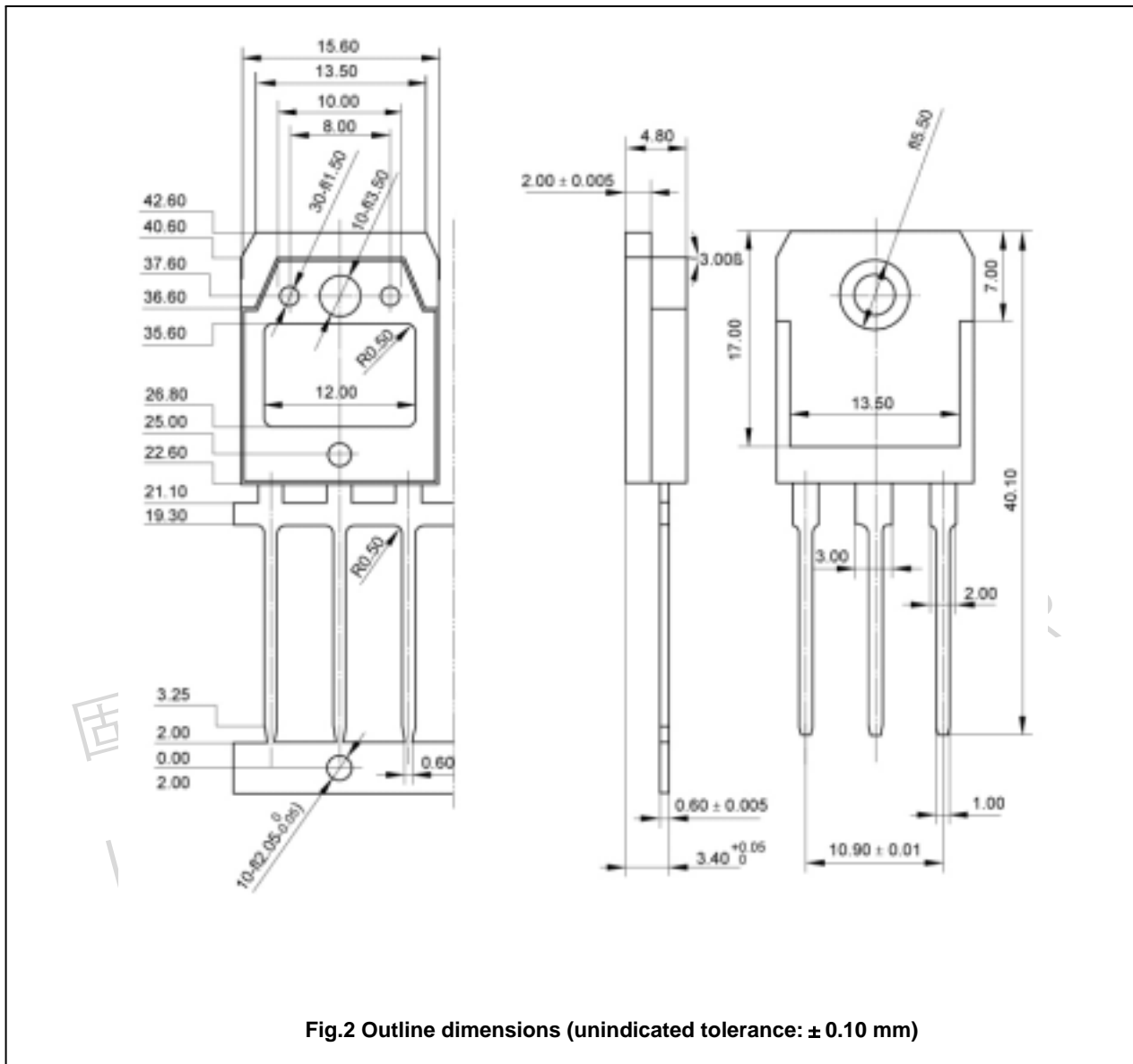


Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)

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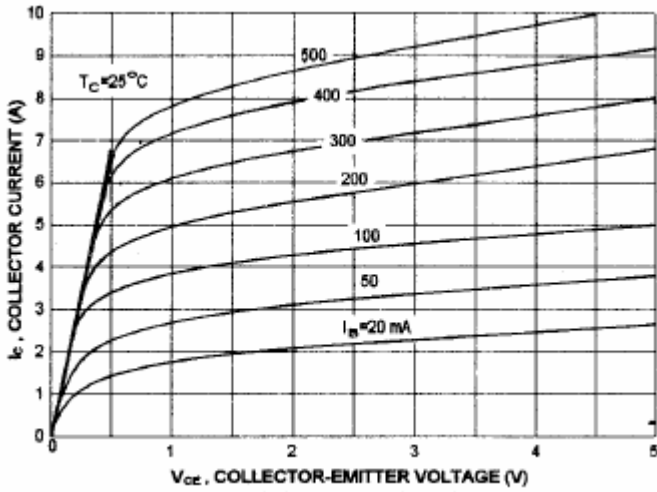


Fig.3 Static Characteristic

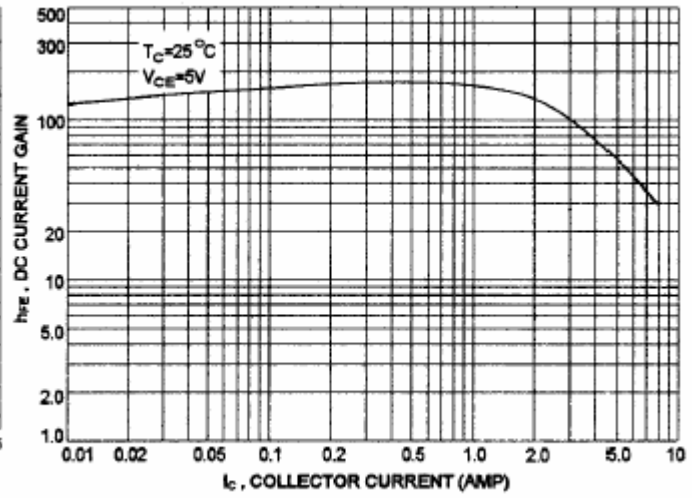


Fig.4 DC current Gain

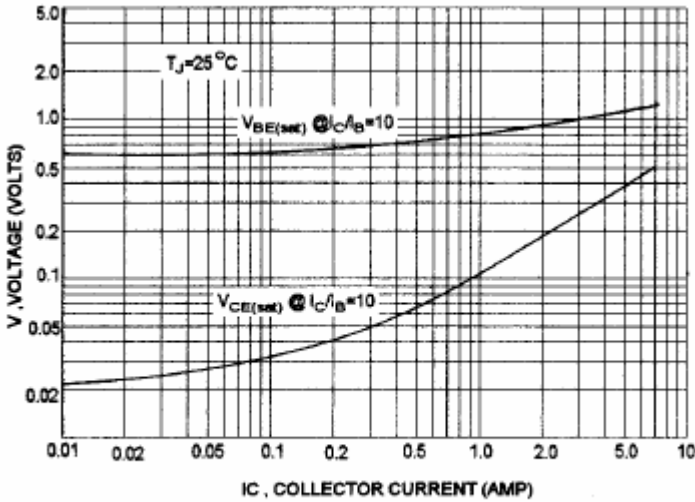


Fig.5 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

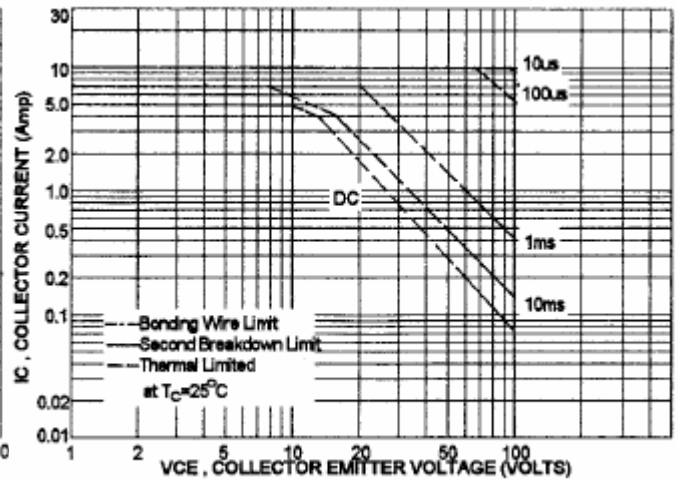


Fig.6 Safe Operating Area