

Silicon PNP Power Transistors

2SB817

**DESCRIPTION**

- With TO-3PN package
- Complement to type 2SD1047

**APPLICATIONS**

- 140V/12A AF 60W output applications

**PINNING**

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

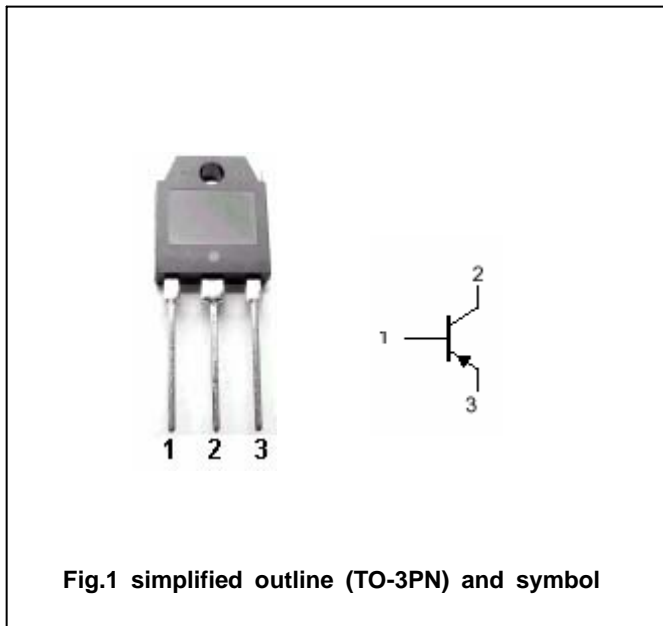


Fig.1 simplified outline (TO-3PN) and symbol

**Absolute maximum ratings(Tc=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-160	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-140	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-6	V
I <sub>C</sub>	Collector current (DC)		-12	A
I <sub>CM</sub>	Collector current-peak		-15	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	100	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-40~150	

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =-50mA ; I <sub>B</sub> =0	-140			V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =-5mA ; I <sub>E</sub> =0	-160			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =-5mA ; I <sub>C</sub> =0	-6			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-5A ; I <sub>B</sub> =-0.5A		-1.1		V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-5V			-1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-80V ; I <sub>E</sub> =0			-0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-4V ; I <sub>C</sub> =0			-0.1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-5V	60		200	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-6A ; V <sub>CE</sub> =-5V	20			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-5V		15		MHz
C <sub>OB</sub>	Collector output capacitance	I <sub>E</sub> =0 ; f=1MHz ; V <sub>CB</sub> =10V		300		pF

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =-1.0A I <sub>B1</sub> =-I <sub>B2</sub> =-0.1A		0.25		μs
t <sub>stg</sub>	Storage time			1.61		μs
t <sub>f</sub>	Fall time			0.53		μs

◆ h<sub>FE-1</sub> Classifications

D	E
60-120	100-200

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PACKAGE OUTLINE

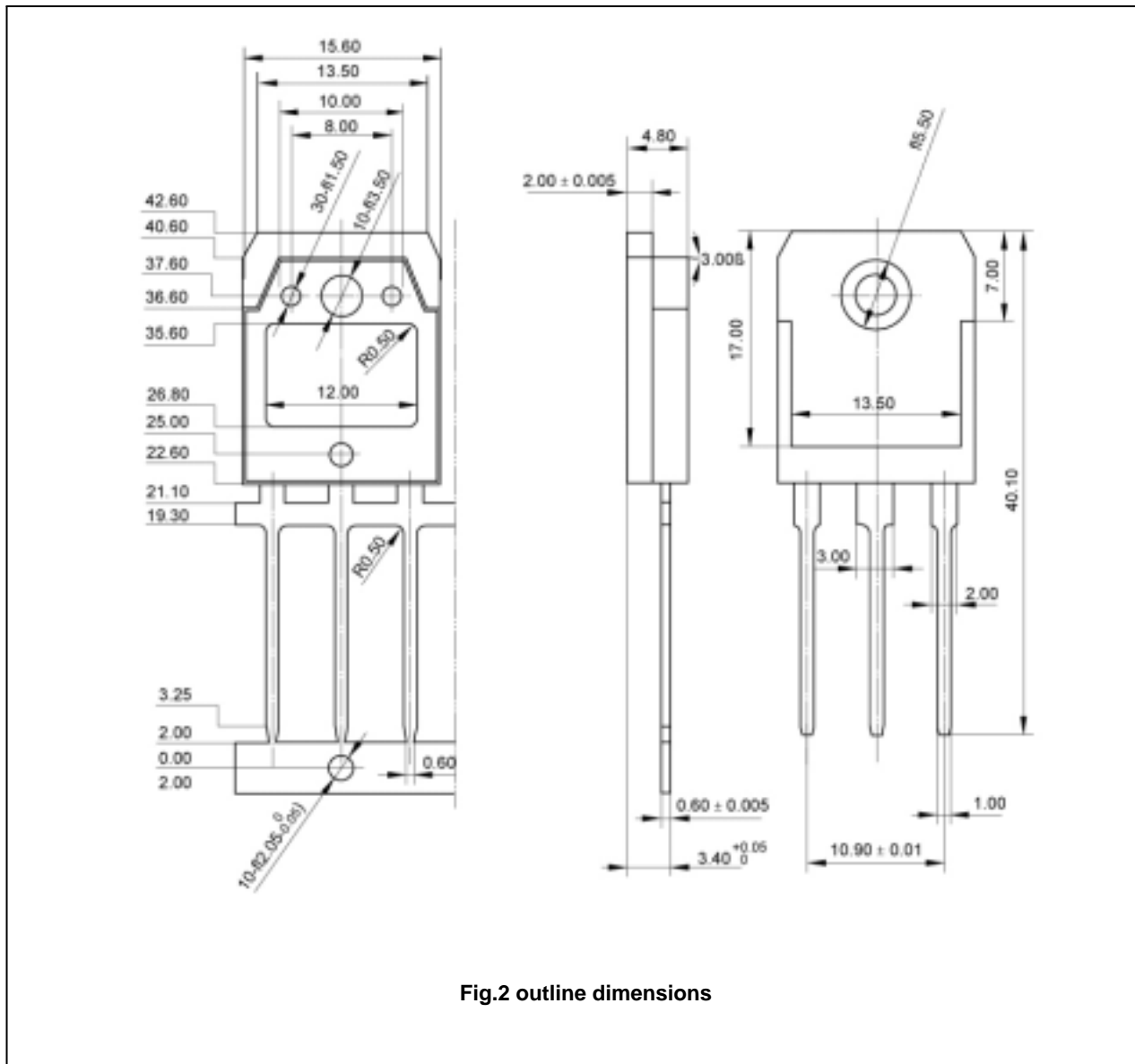


Fig.2 outline dimensions

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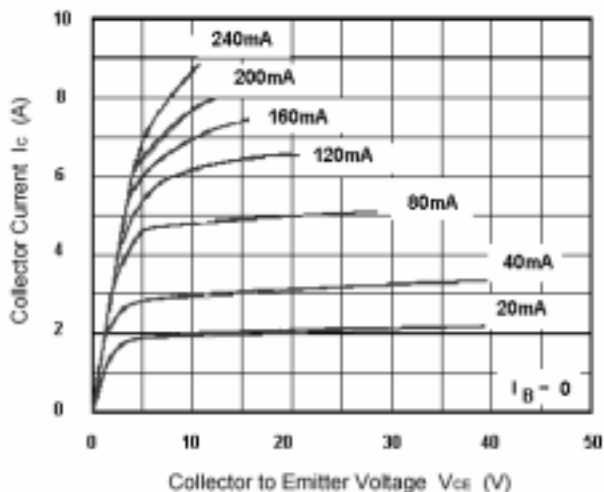


Fig.3 Static Characteristic

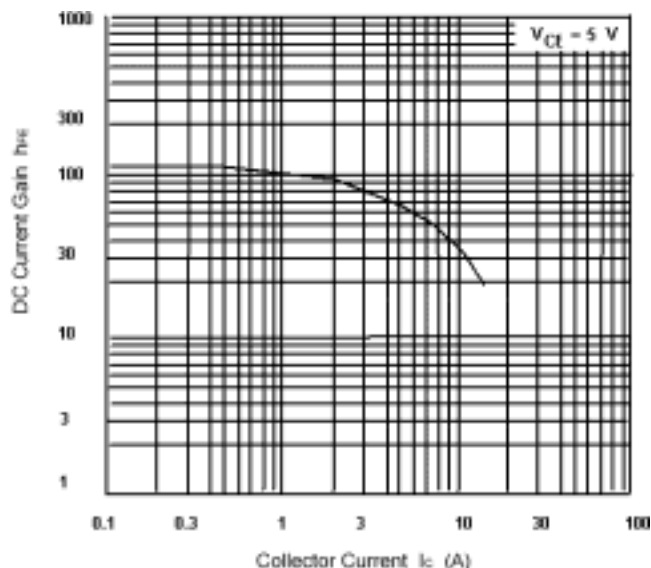


Fig.4 DC current Gain

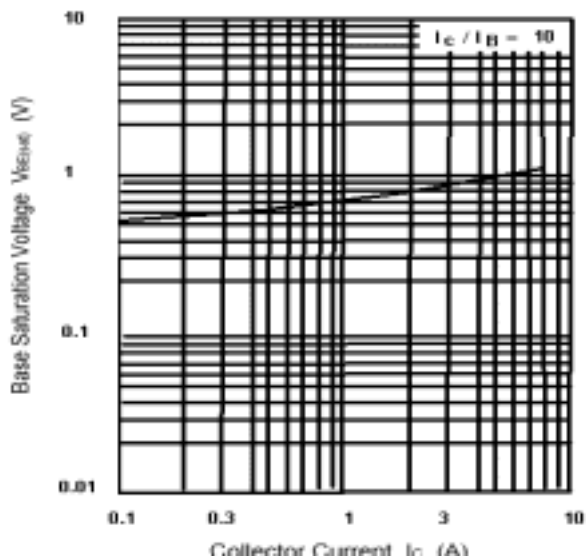


Fig.5 Base-Emitter Saturation Voltage

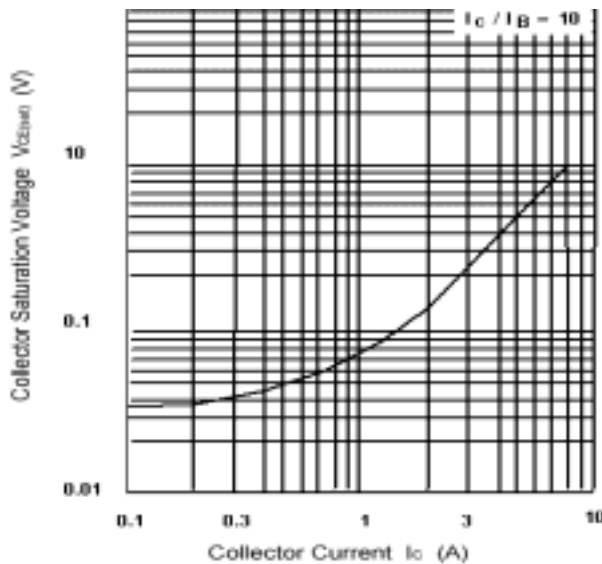


Fig.6 Collector-Emitter Saturation Voltage

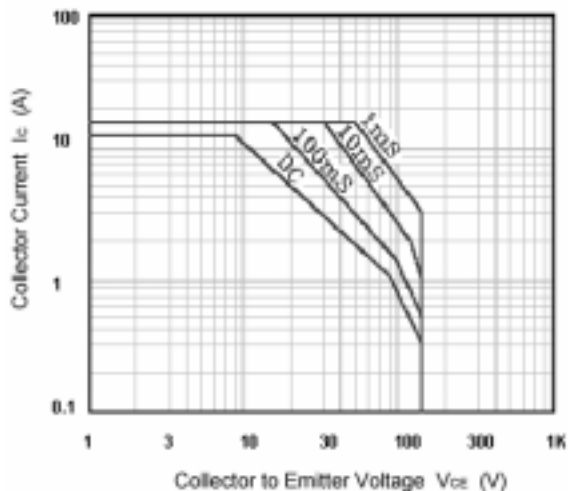


Fig.7 Safe Operating Area