

**Silicon PNP Darlington Power Transistors**

**2SB1559**

**DESCRIPTION**

- With TO-3PN package
- Complement to type 2SD2389

**APPLICATIONS**

- Audio ,regulator and general purpose

**PINNING**

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

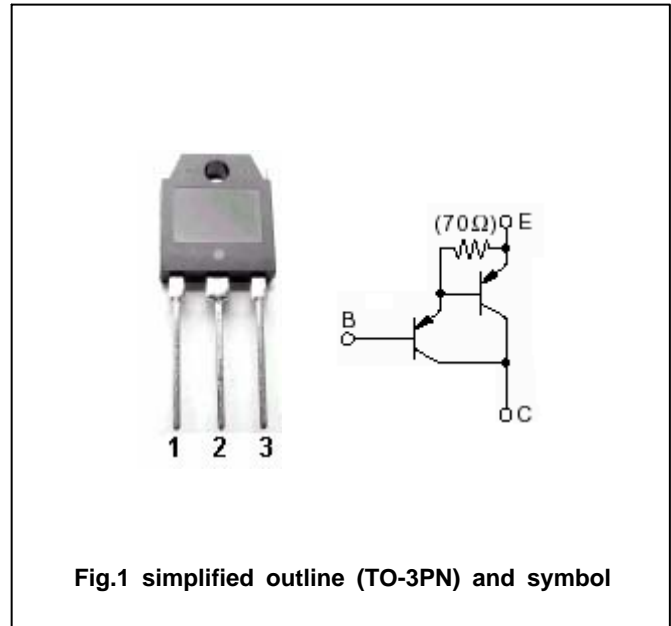


Fig.1 simplified outline (TO-3PN) and symbol

**Absolute maximum ratings(Ta= )**

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	-150	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V
I <sub>C</sub>	Collector current		-8	A
I <sub>B</sub>	Base current		-1	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	80	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-55~150	

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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> =-30mA ; I <sub>B</sub> =0	-150			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-6A ; I <sub>B</sub> =-6mA			-2.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-6A ; I <sub>B</sub> =-6mA			-3.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-160V; I <sub>E</sub> =0			-100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-100	μA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =-6A ; V <sub>CE</sub> =-4V	5000			
C <sub>ob</sub>	Output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =-10V; f=1MHz		160		pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =-12V		65		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =-6A; R <sub>L</sub> =10 I <sub>B1</sub> =- I <sub>B2</sub> =-6mA V <sub>CC</sub> =60V		0.7		μs
t <sub>s</sub>	Storage time			3.6		μs
t <sub>f</sub>	Fall time			0.9		μs

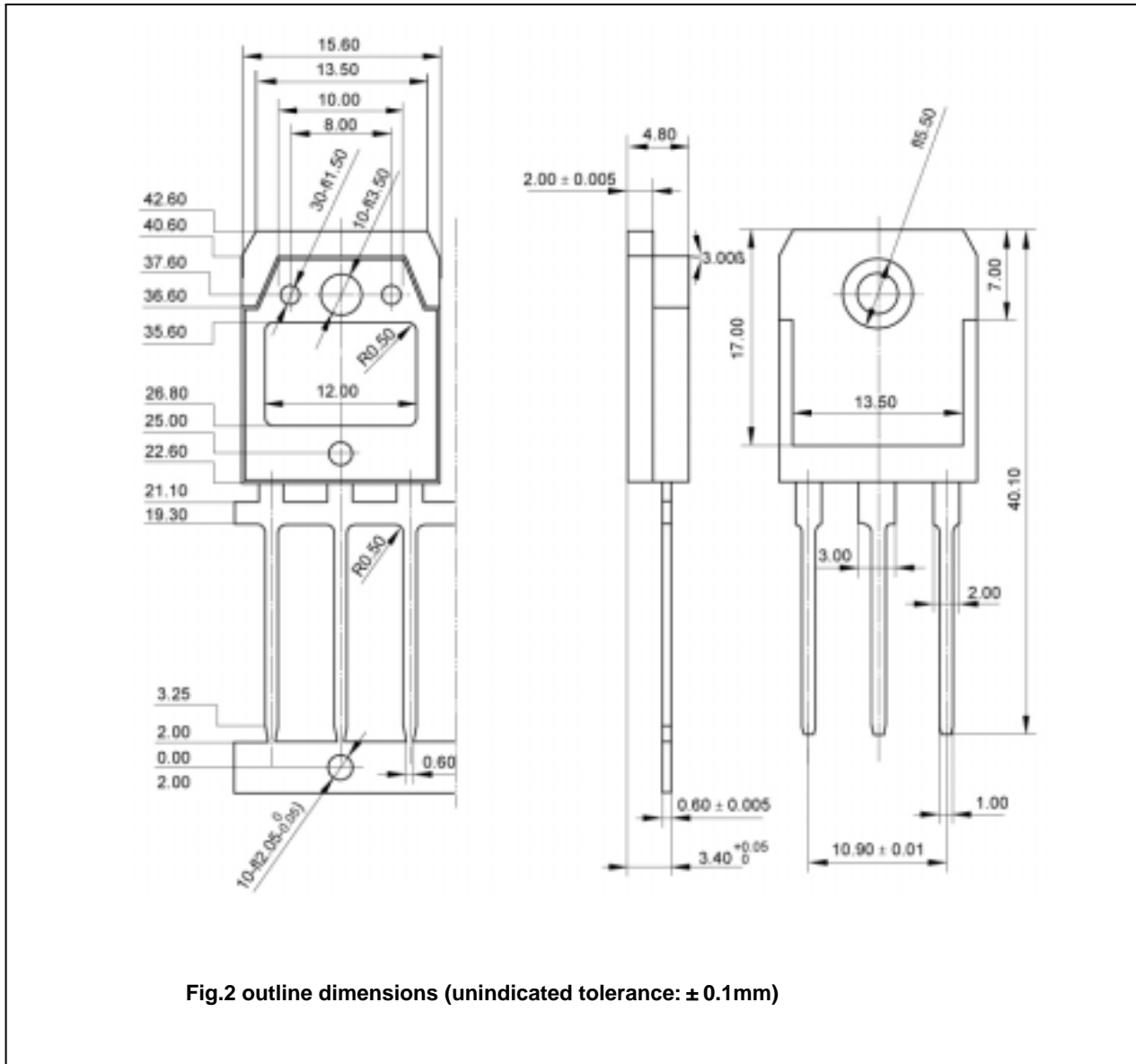
◆ h<sub>FE</sub> Classifications

O	P	Y
5000-12000	6500-20000	15000-30000

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PACKAGE OUTLINE



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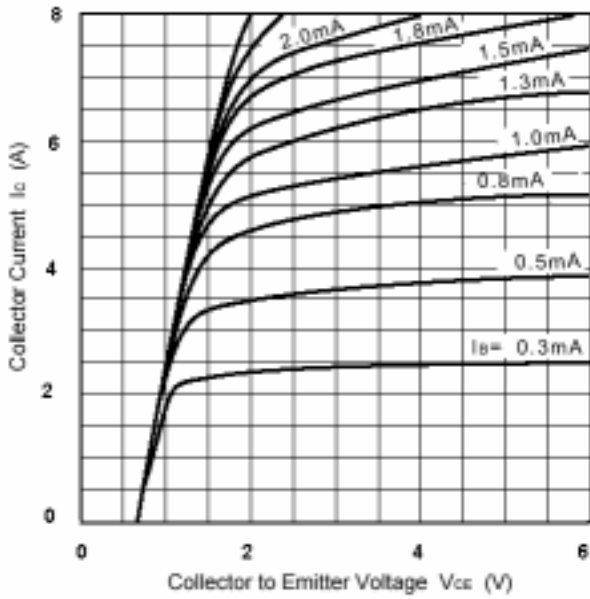


Fig.3  $I_c$ - $V_{CE}$  Characteristics (Typical)

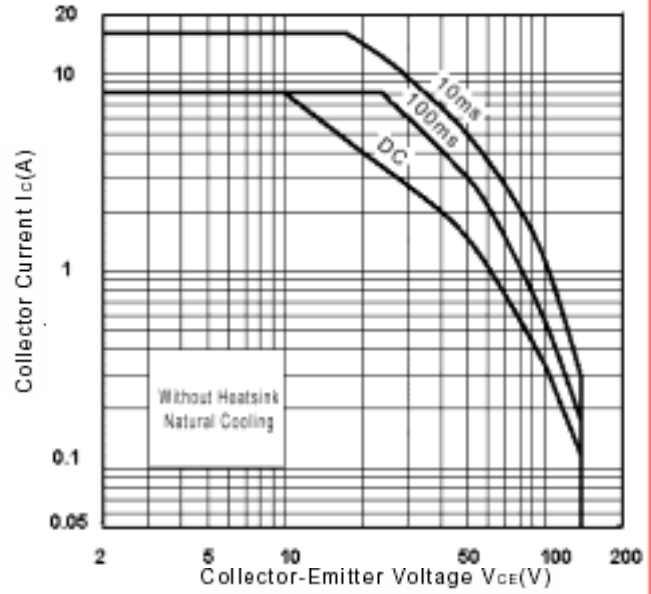


Fig.4 Safe Operating Area (Single Pulse)

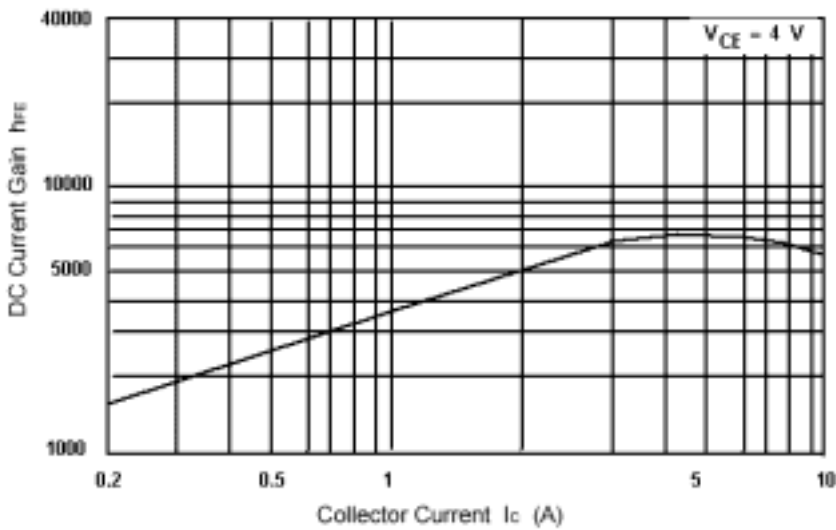


Fig.5  $h_{FE}$ - $I_c$  Characteristics (Typical)