

Silicon NPN Power Transistors

2SD1559

DESCRIPTION

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- With TO-3P(I) package
- Complement to type 2SB1079
- DARLINGTON

APPLICATIONS

- For low frequency power amplifier applications

PINNING

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

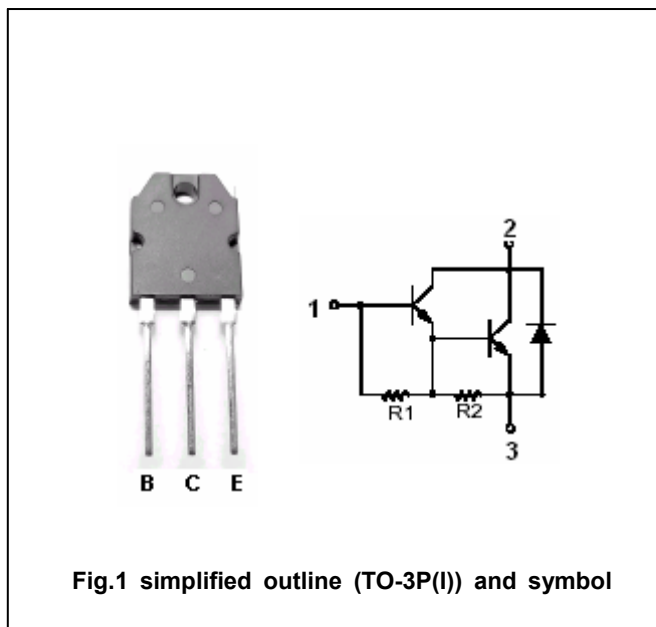


Fig.1 simplified outline (TO-3P(I)) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	100	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	100	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		20	A
I <sub>CM</sub>	Collector current-peak		30	A
I <sub>B</sub>	Base current		3	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	100	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

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =25mA, R <sub>BE</sub> =∞	100			V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =0.1mA, I <sub>E</sub> =0	100			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =50mA, I <sub>C</sub> =0	7			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =20mA			2.0	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =20A; I <sub>B</sub> =200mA			3.0	V
V <sub>BE sat-1</sub>	Base-emitter saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =20mA			2.5	V
V <sub>BE sat-2</sub>	Base-emitter saturation voltage	I <sub>C</sub> =20A; I <sub>B</sub> =200mA			3.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =100V; I <sub>E</sub> =0			100	μA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =80V; R <sub>BE</sub> =∞			1.0	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =10A; V <sub>CE</sub> =3V	1000		20000	

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =10A; I <sub>B1</sub> =-I <sub>B2</sub> =20mA		1.0		μs
t <sub>stg</sub>	Storage time			9.0		μs
t <sub>f</sub>	Fall time			3.0		μs

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PACKAGE OUTLINE

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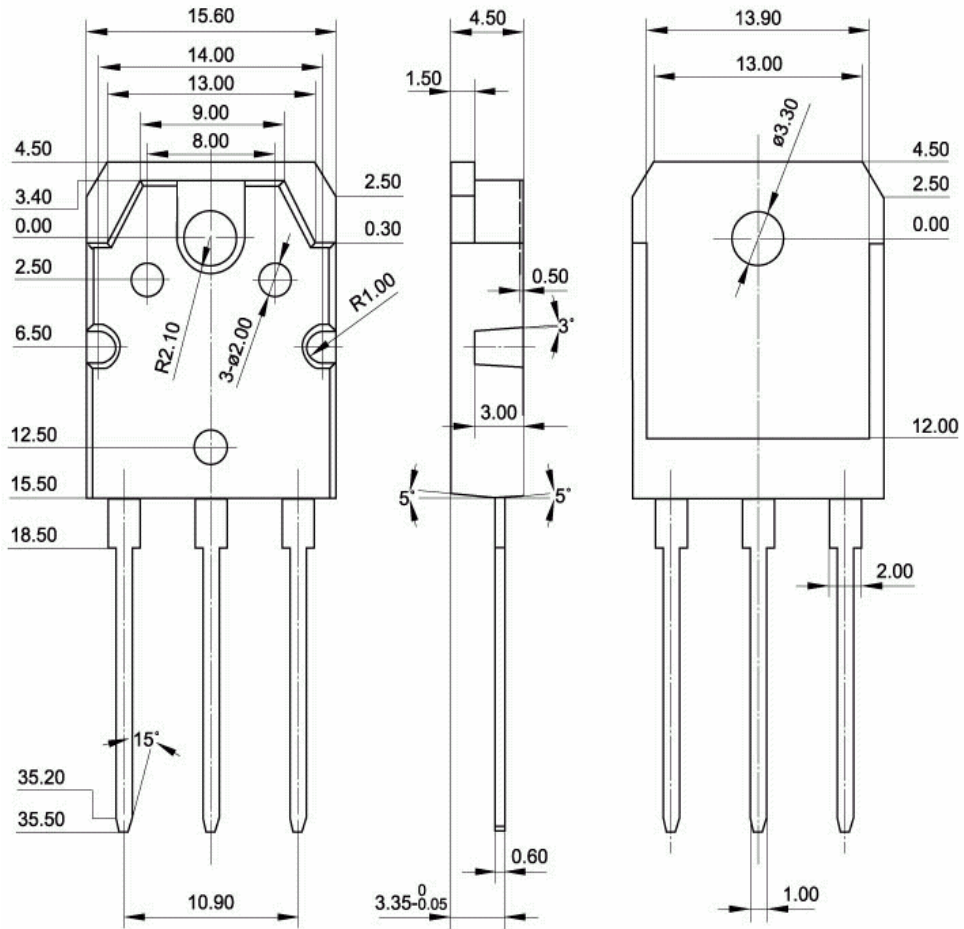


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)