

Inchange Semiconductor

Product Specification

Silicon PNP Power Transistors

2SA1939

DESCRIPTION

- With TO-3P(I) package
- Complement to type 2SC5196

APPLICATIONS

- Power amplifier applications
- Recommend for 40W high fidelity audio frequency amplifier output stage

PINNING

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

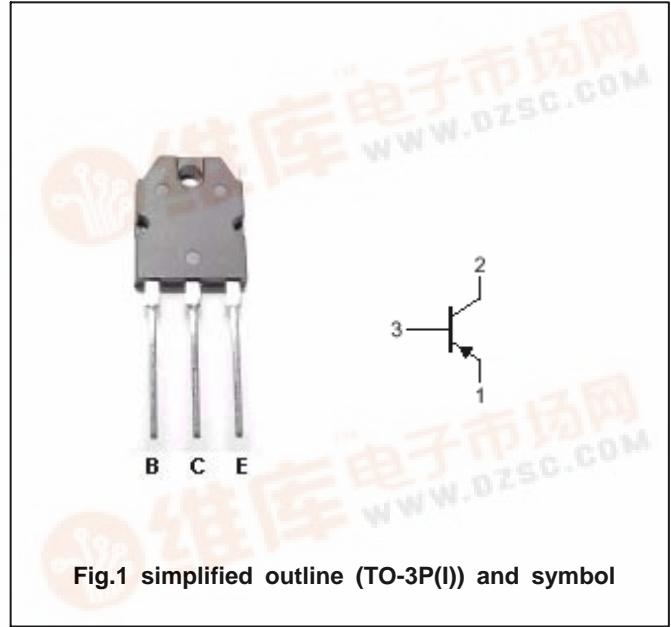


Fig.1 simplified outline (TO-3P(I)) and symbol

Absolute maximum ratings(Ta=25 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-80	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-80	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V
I <sub>C</sub>	Collector current		-6	A
I <sub>B</sub>	Base current		-0.6	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	60	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-55~150	

## Silicon PNP Power Transistors

## 2SA1939

## 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	-80			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-5 A; I <sub>B</sub> =-0.5A			-2.0	V
V <sub>BE</sub>	Base-emitter voltage	I <sub>C</sub> =-3A ; 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			-5	μ A
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-5	μ A
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-5V	55		160	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-3A ; V <sub>CE</sub> =-5V	35			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-5V		30		MHz
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =-10V; f=1MHz		180		pF

◆ h<sub>FE-1</sub> classifications

R	O
55-110	80-160

Silicon PNP Power Transistors

2SA1939

PACKAGE OUTLINE

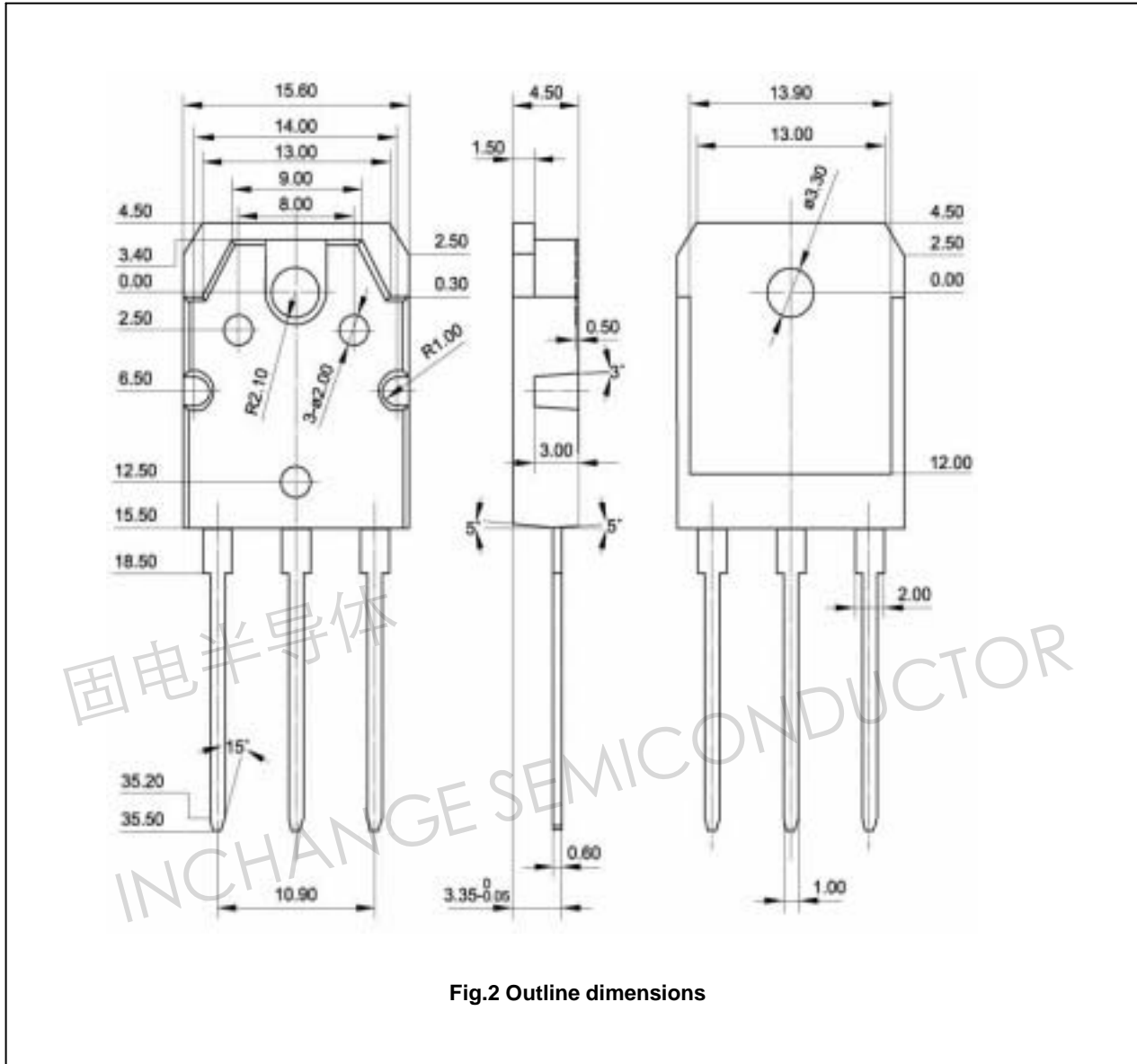


Fig.2 Outline dimensions

Silicon PNP Power Transistors

2SA1939

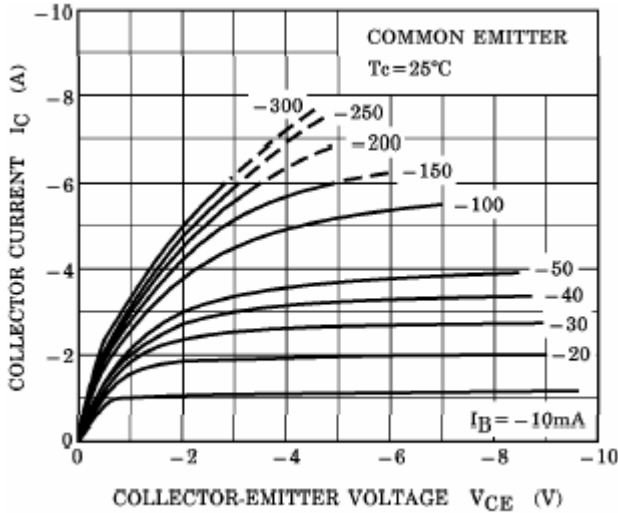


Fig.3 Static Characteristic

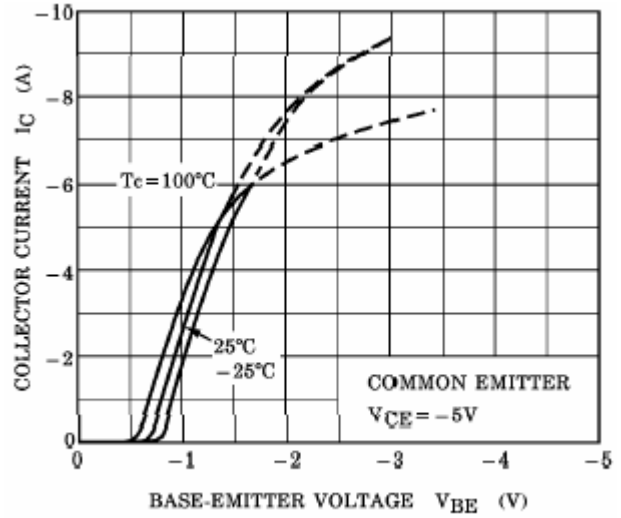


Fig.4 Base-Emitter On Voltage

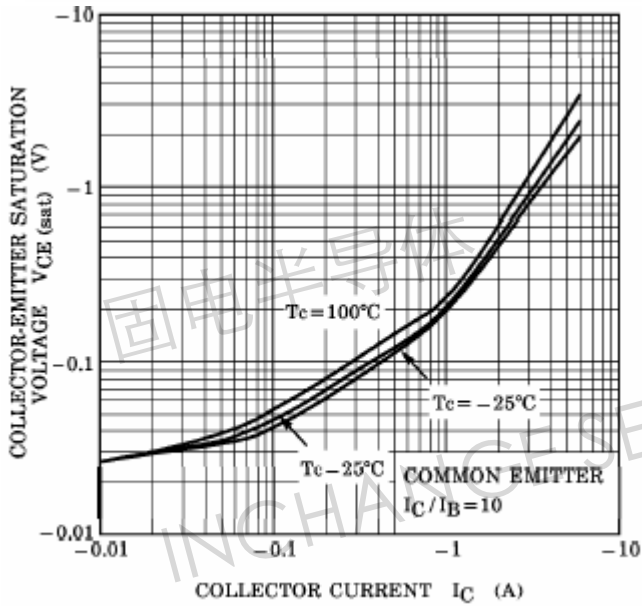


Fig.5 Collector-Emitter Saturation Voltage

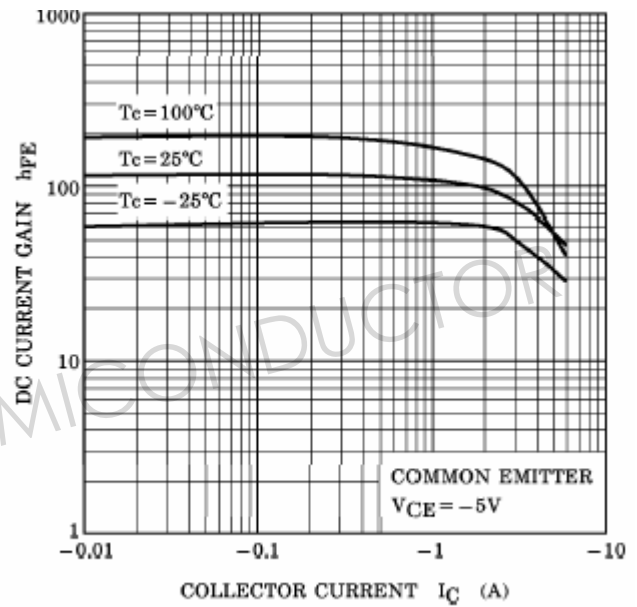


Fig.6 DC current Gain

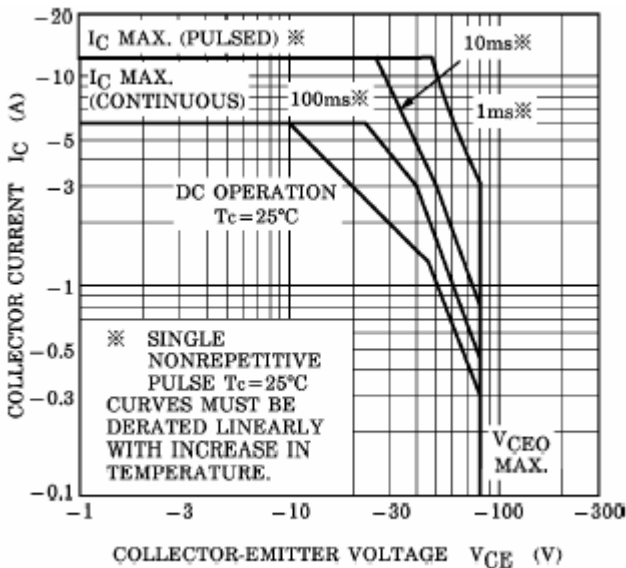


Fig.7 Safe Operating Area