

Silicon NPN Power Transistors

2SC2344

**DESCRIPTION**

- With TO-220 package
- Complement to type 2SA1011

**APPLICATIONS**

- High voltage switching
- Audio frequency power amplifier;
- 100W output predriver applications

**PINNING**

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

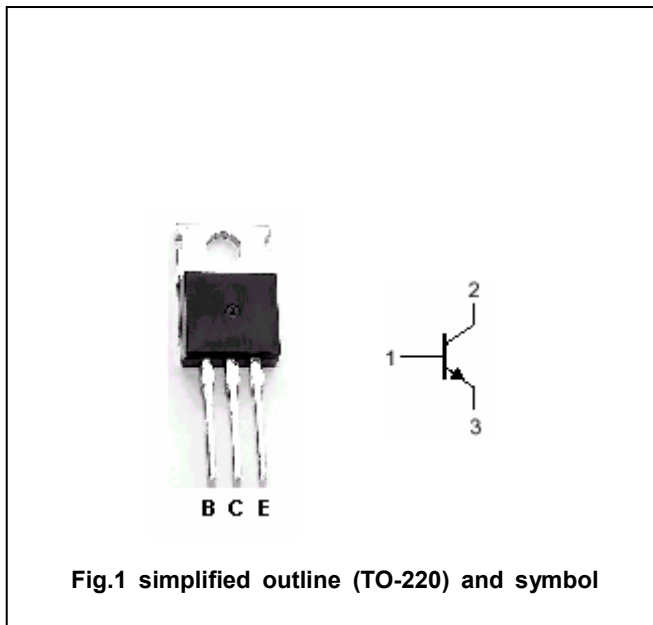


Fig.1 simplified outline (TO-220) and symbol

**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	180	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	160	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current		1.5	A
I <sub>CM</sub>	Collector current-Peak		3.0	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	25	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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Base-emitter breakdown voltage	I <sub>C</sub> =10mA, R <sub>BE</sub> =∞	160			V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =1mA; I <sub>E</sub> =0	180			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =1mA; I <sub>C</sub> =0	6			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =0.5A; I <sub>B</sub> =50mA		0.3		V
V <sub>BE</sub>	Base-emitter voltage	I <sub>C</sub> =10mA; V <sub>CE</sub> =5V		1.5		V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =120V; I <sub>E</sub> =0			10	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =4V; I <sub>C</sub> =0			10	μA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =0.3A; V <sub>CE</sub> =5V	60		200	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =50mA; V <sub>CE</sub> =10V		100		MHz
C <sub>ob</sub>	Output capacitance	f=1MHz; V <sub>CB</sub> =10V		23		pF

Switching times resistive load

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =0.5A I <sub>B1</sub> =- I <sub>B2</sub> =50mA		0.15		μs
t <sub>s</sub>	Storage time			0.81		μs
t <sub>f</sub>	Fall time			0.48		μs

◆ h<sub>FE</sub> Classifications

D	E
60-120	100-200

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PACKAGE OUTLINE

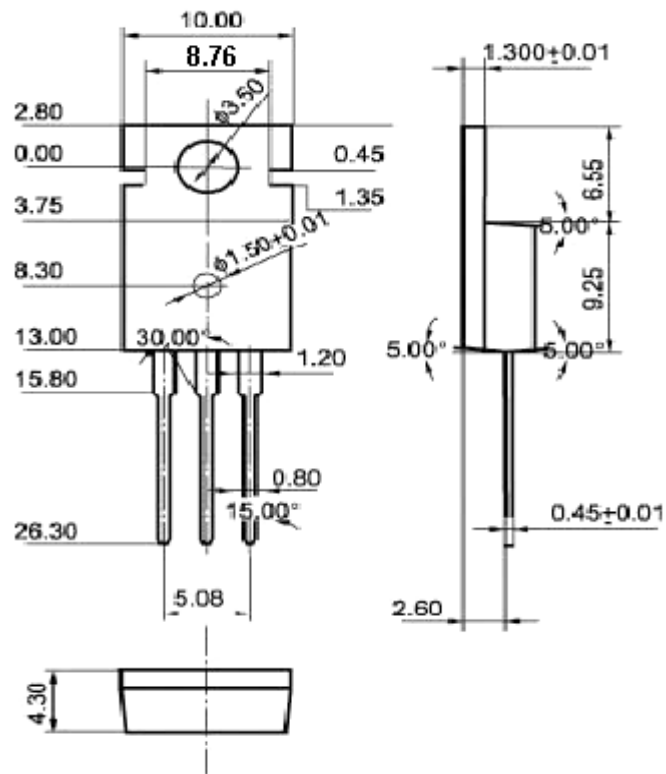


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)

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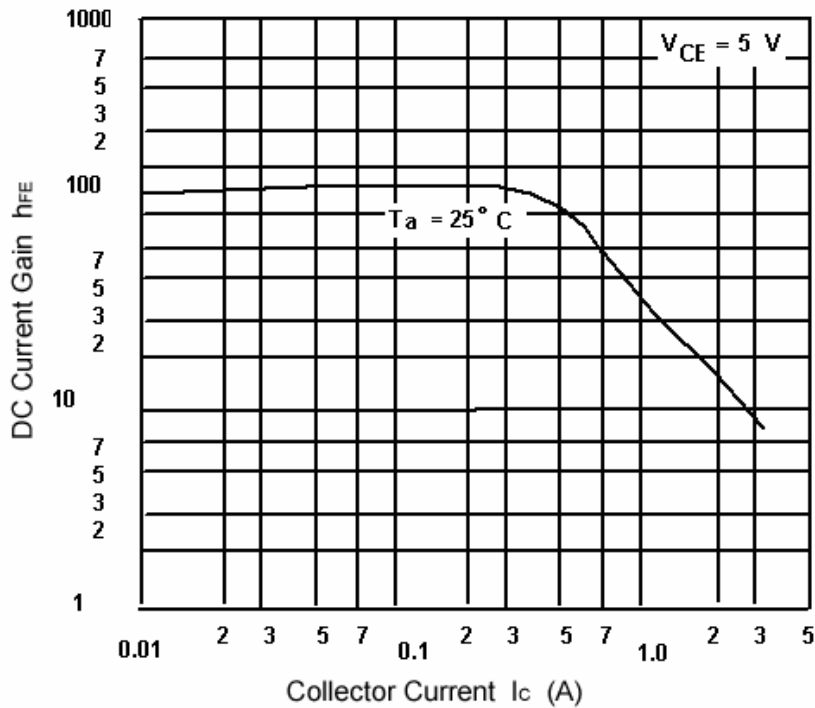


Fig.3 DC current Gain

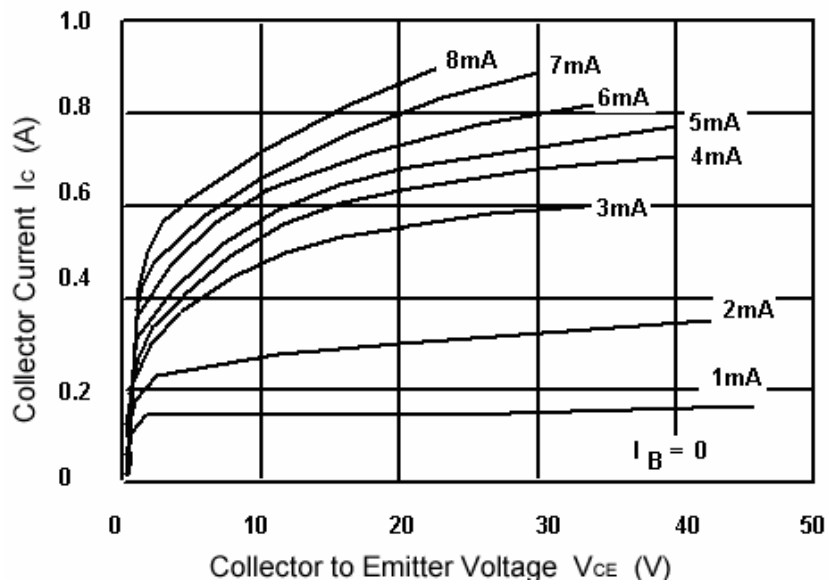


Fig.4 Static Characteristic

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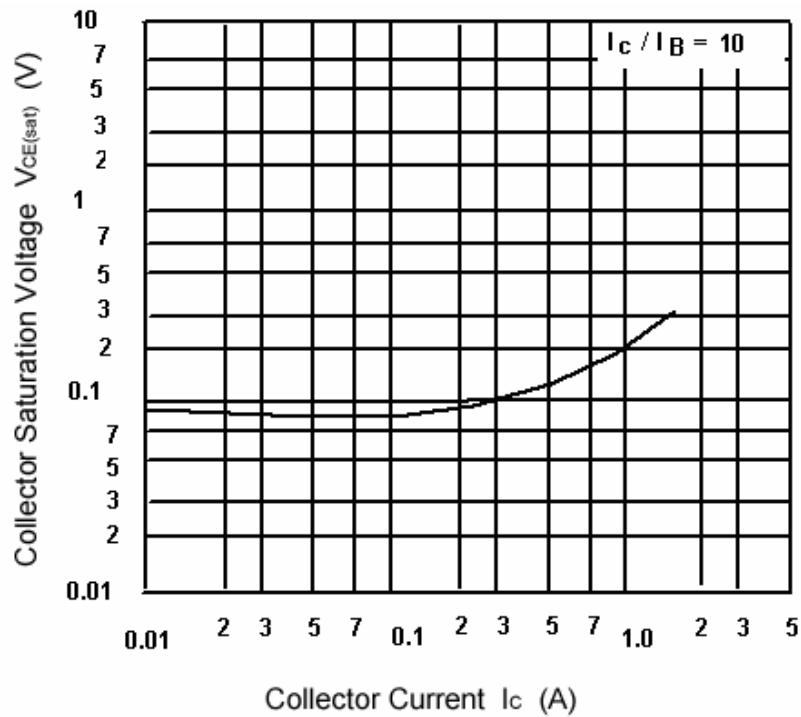


Fig.5 Collector-Emitter Saturation Voltage

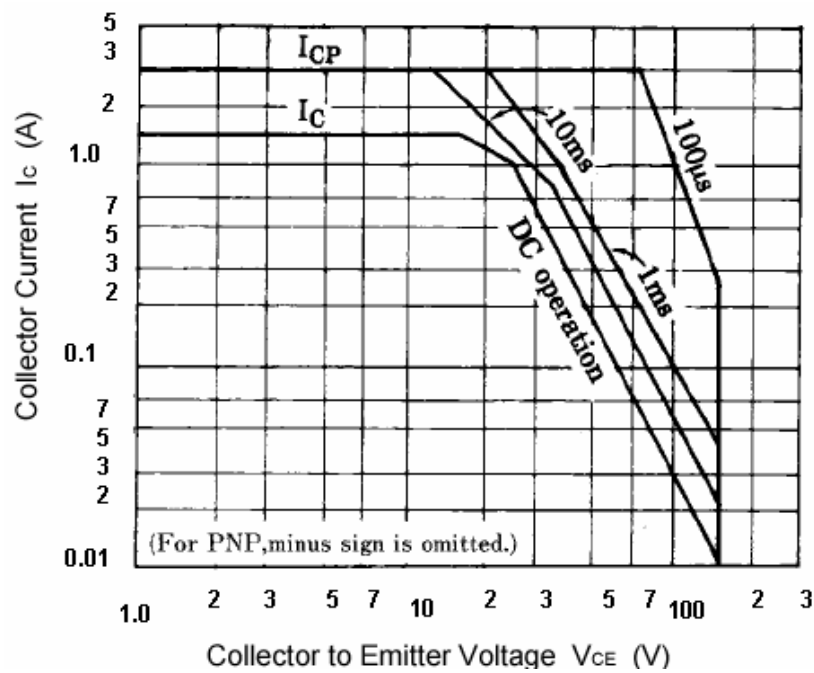


Fig.6 Safe Operating Area