

## Silicon PNP Power Transistors

2SA1008

## DESCRIPTION

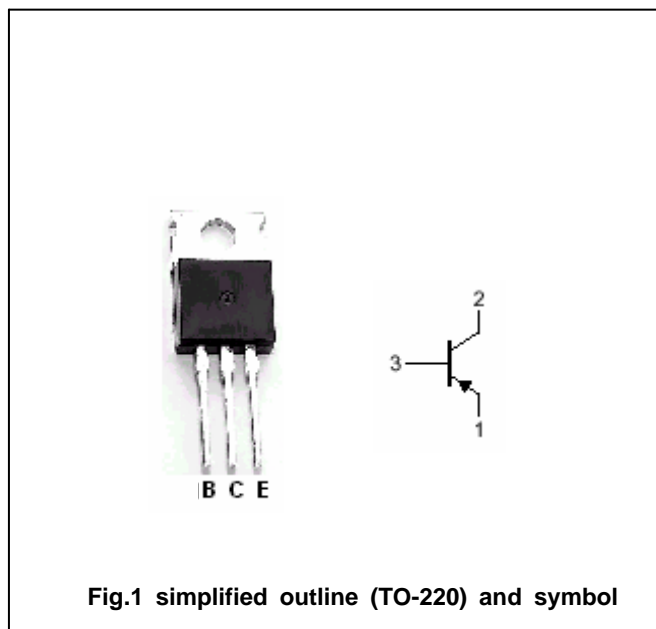
- With TO-220 package
- Complement to type 2SC2331
- Low collector saturation voltage
- Fast switching speed

## APPLICATIONS

- Switching regulators
- DC/DC converters
- High frequency power amplifiers

## PINNING

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

Absolute maximum ratings( $T_a=25^{\circ}\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	-100	V
$V_{CEO}$	Collector-emitter voltage	Open base	-100	V
$V_{EBO}$	Emitter-base voltage	Open collector	-7	V
$I_C$	Collector current		-2.0	A
$I_{CM}$	Collector current-Peak		-4.0	A
$I_B$	Base current		-1.0	A
$P_T$	Total power dissipation	$T_a=25^{\circ}\text{C}$	1.5	W
		$T_C=25^{\circ}\text{C}$	15	
$T_j$	Junction temperature		150	$^{\circ}\text{C}$
$T_{stg}$	Storage temperature		-55~150	$^{\circ}\text{C}$

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =-1.0A, I <sub>B</sub> =-0.1A, L=1mH	-100			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-1A; I <sub>B</sub> =-0.1A			-0.6	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-1A; I <sub>B</sub> =-0.1A			-1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-100V; I <sub>E</sub> =0			-10	μ A
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-10	μ A
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-0.1A; V <sub>CE</sub> =-5V	40			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-1A; V <sub>CE</sub> =-5V	40		200	

Switching times resistive load

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =-1.0A I <sub>B1</sub> =- I <sub>B2</sub> =-0.1A R <sub>L</sub> =50 Ω ; V <sub>CC</sub> ≈50V			0.5	μ s
t <sub>s</sub>	Storage time				1.5	μ s
t <sub>f</sub>	Fall time				0.5	μ s

◆ h<sub>FE-2</sub> Classifications

M	L	K
40-80	60-120	100-200

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PACKAGE OUTLINE

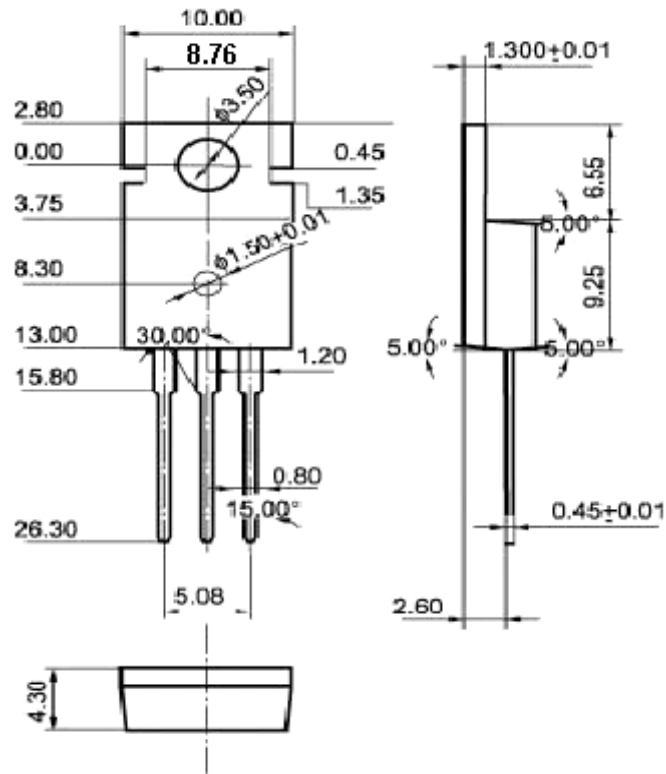


Fig.2 Outline dimensions(unindicated tolerance:  $\pm 0.10$  mm)

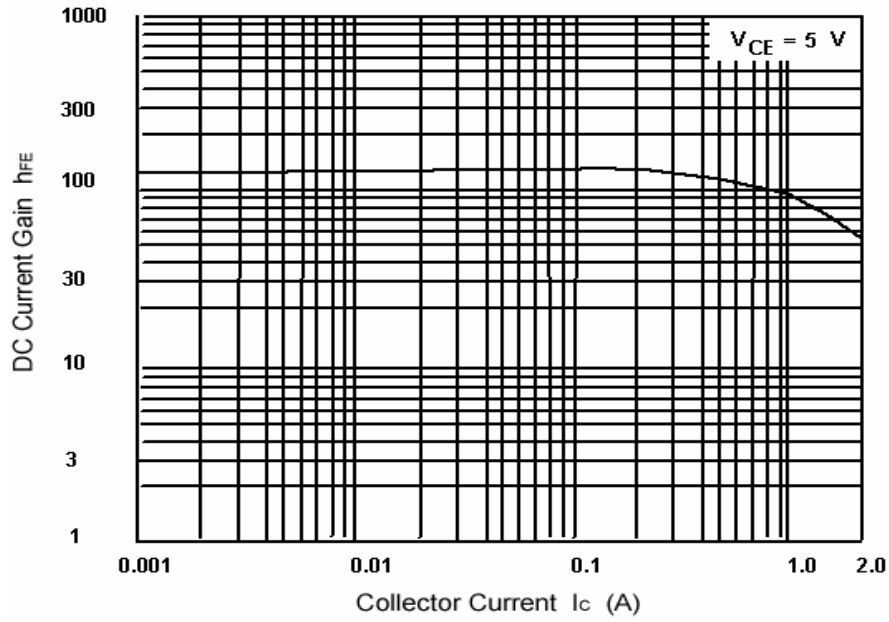


Fig.3 DC current Gain

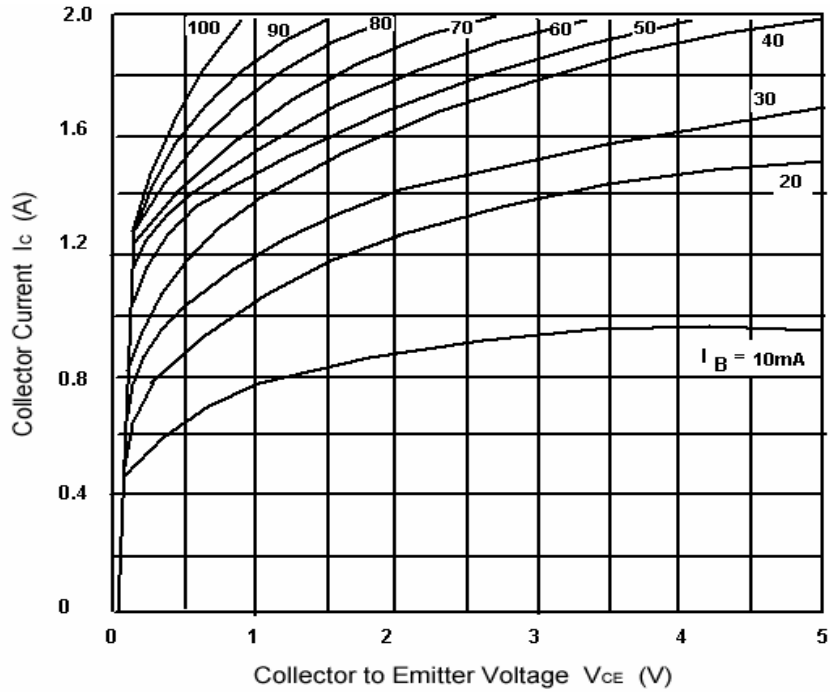


Fig.4 Static Characteristic

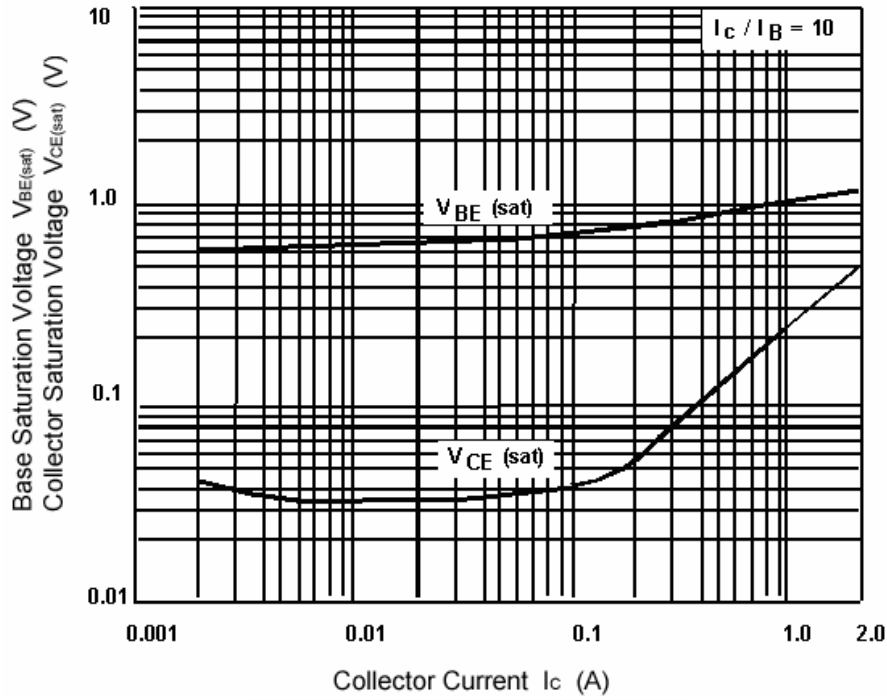


Fig.5 Base-Emitter Saturation Voltage  
Collector-Emmitter Saturation Voltage

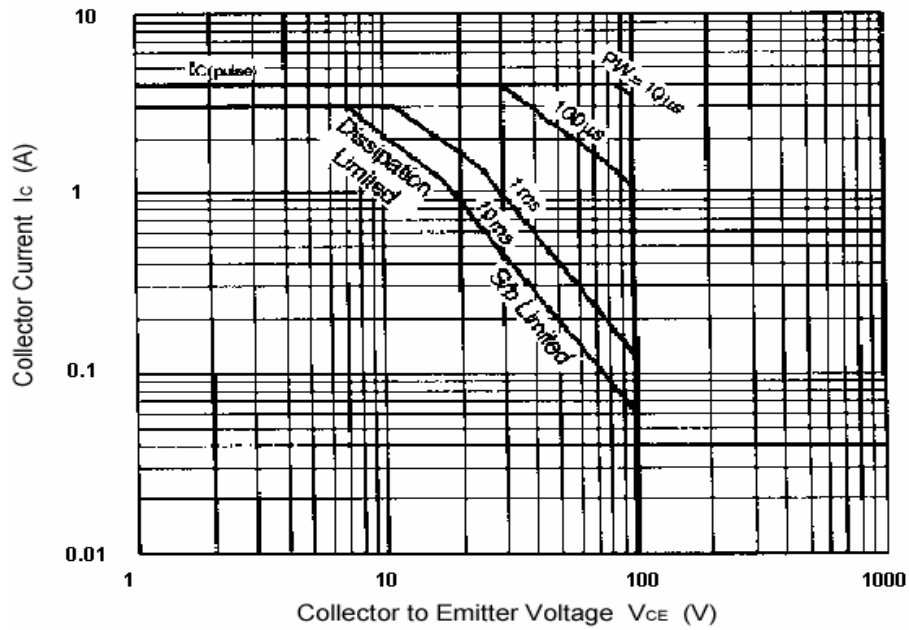


Fig.6 Safe Operating Area