

**Silicon PNP Power Transistors**

**2SB1015**

**DESCRIPTION**

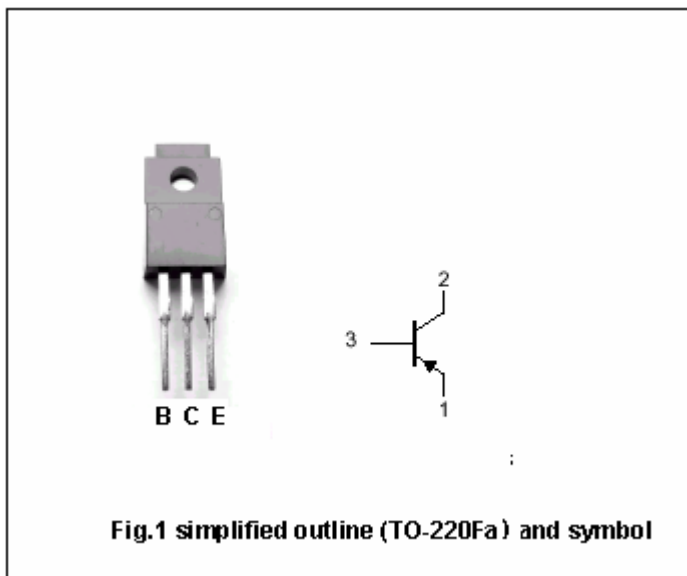
- With TO-220Fa package
- Collector power dissipation  
:  $P_C=25W@T_C=25^\circ C$
- Low collector saturation voltage
- Complement to type 2SD1406

**APPLICATIONS**

- For audio frequency power amplifier applications

**PINNING**

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base



**Absolute maximum ratings( $T_a=25^\circ C$ )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	-60	V
$V_{CEO}$	Collector-emitter voltage	Open base	-60	V
$V_{EBO}$	Emitter-base voltage	Open collector	-7	V
$I_C$	Collector current		-3	A
$I_B$	Base current		-0.5	A
$P_C$	Collector power dissipation	$T_a=25^\circ C$	2.0	W
		$T_C=25^\circ C$	25	
$T_j$	Junction temperature		150	$^\circ C$
$T_{stg}$	Storage temperature		-55~150	$^\circ C$

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## CHARACTERISTICS

T<sub>j</sub>=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(BR)</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =-50mA; I <sub>B</sub> =0	-60			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-3A; I <sub>B</sub> =-0.3A			-1.7	V
V <sub>BE</sub>	Base-emitter voltage	I <sub>C</sub> =-0.5A; V <sub>CE</sub> =-5V			-1.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-60V; I <sub>E</sub> =0			-100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-7V; I <sub>C</sub> =0			-100	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-0.5A; V <sub>CE</sub> =-5V	60		200	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-3A; V <sub>CE</sub> =-5V	20			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-0.5A; V <sub>CE</sub> =-5V		9		MHz
C <sub>OB</sub>	Collector output capacitance	f=1MHz; V <sub>CB</sub> =-10V		150		pF

## Switching times

t <sub>on</sub>	Trun-on time	R <sub>L</sub> =15Ω; V <sub>CC</sub> =-30V I <sub>B1</sub> =-I <sub>B2</sub> =-0.2A Duty cycle≤1%		0.4		μs
t <sub>s</sub>	Storage time			1.7		μs
t <sub>f</sub>	Fall time			0.5		μs

◆ h<sub>FE-1</sub> Classifications

O	Y
60-120	100-200

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PACKAGE OUTLINE

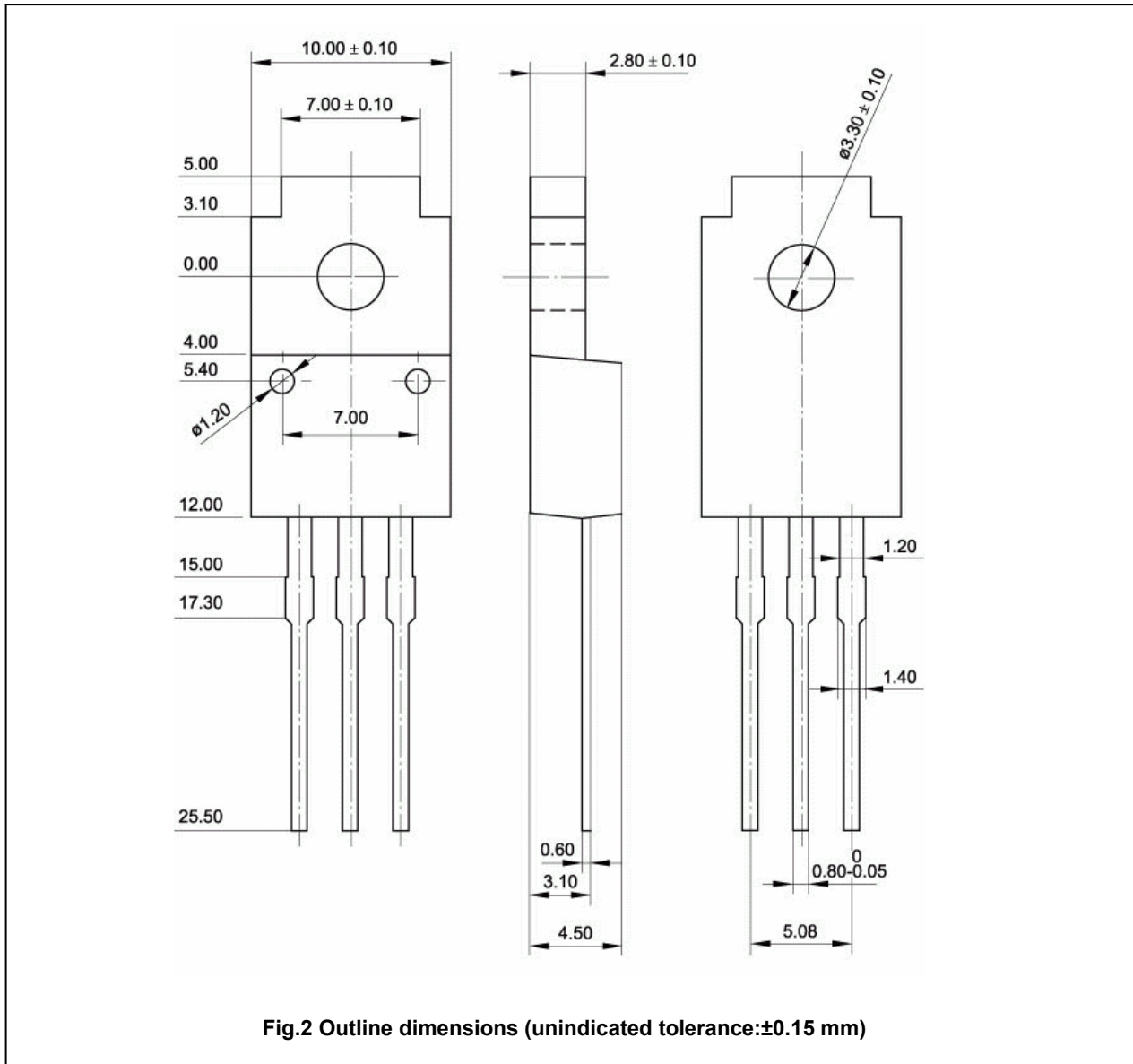


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)

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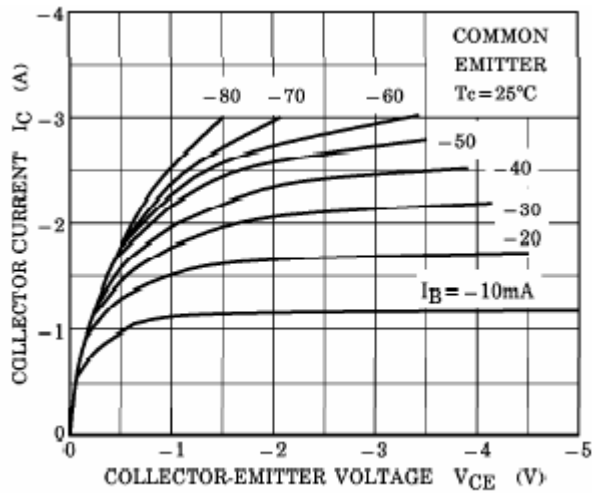


Fig.3 Static Characteristic

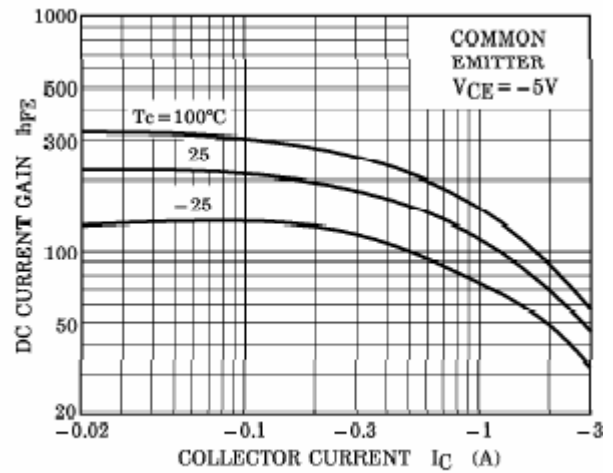


Fig.4 DC current Gain

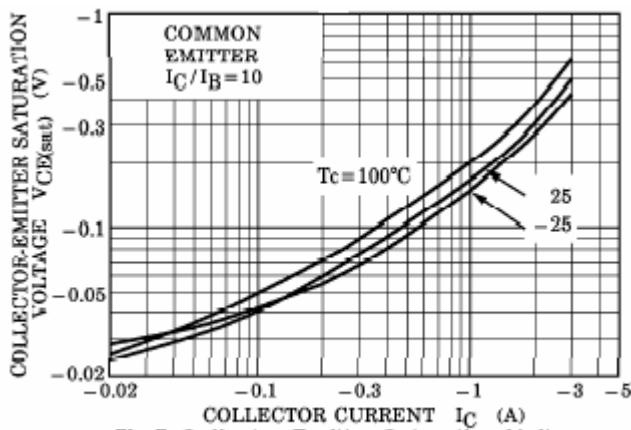


Fig.5 Collector-Emitter Saturation Voltage

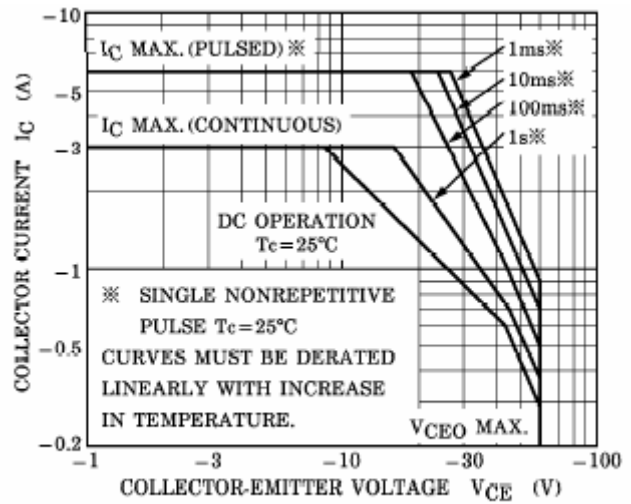


Fig.6 Safe Operating Area