

## Silicon PNP Power Transistors

2SB1022

## DESCRIPTION

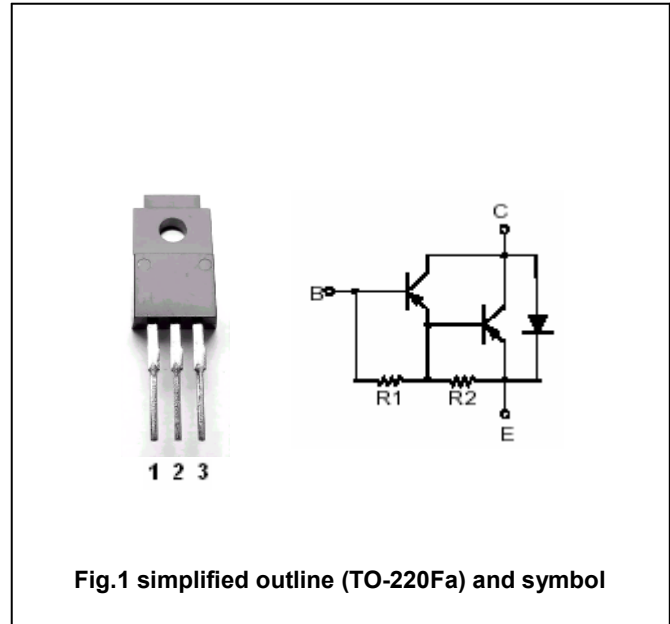
- With TO-220Fa package
- High DC current gain
- Low saturation voltage
- Complement to type 2SD1417

## APPLICATIONS

- High power switching applications
- Hammer drive,pulse motor drive applications

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

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	-5	V
$I_C$	Collector current		-7	A
$I_B$	Base current		-0.2	A
$P_C$	Collector power dissipation	$T_a=25^\circ\text{C}$	2.0	W
		$T_C=25^\circ\text{C}$	30	
$T_j$	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>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =-50mA; I <sub>B</sub> =0	-60			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-3A; I <sub>B</sub> =-6mA			-1.5	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-7A; I <sub>B</sub> =-14mA			-2.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-3A; I <sub>B</sub> =-6mA			-2.5	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> =-5V; I <sub>C</sub> =0			-4.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-3A; V <sub>CE</sub> =-3V	2000		15000	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-7A; V <sub>CE</sub> =-3V	1000			

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>B1</sub> =-I <sub>B2</sub> =-6mA; V <sub>CC</sub> ≈-45V R <sub>L</sub> =15Ω		0.8		μs
t <sub>stg</sub>	Storage time			2.0		μs
t <sub>f</sub>	Fall time			2.5		μs

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PACKAGE OUTLINE

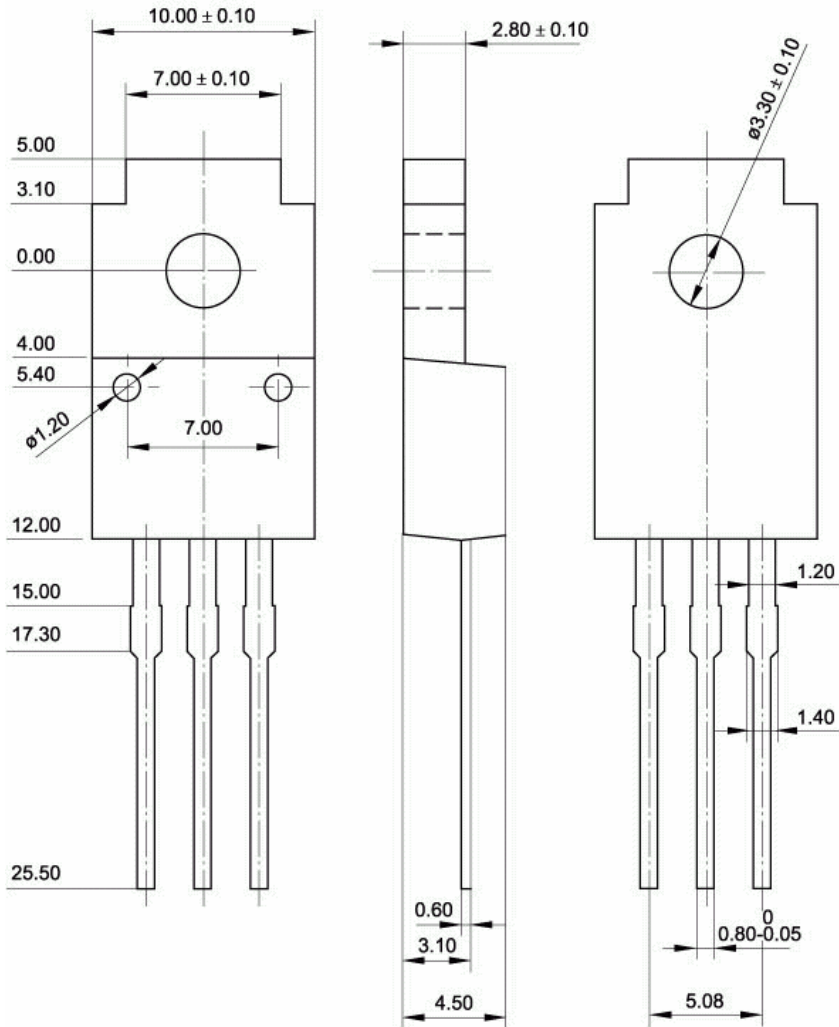


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)