

**Silicon PNP Power Transistors**

**2SA1077**

**DESCRIPTION**

- With TO-220 package
- Complement to type 2SC2527
- High transition frequency
- Excellent safe operating area

**APPLICATIONS**

- High-frequency power amplifier
- Audio power amplifiers
- Switching regulators
- DC-DC converters

**PINNING**

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

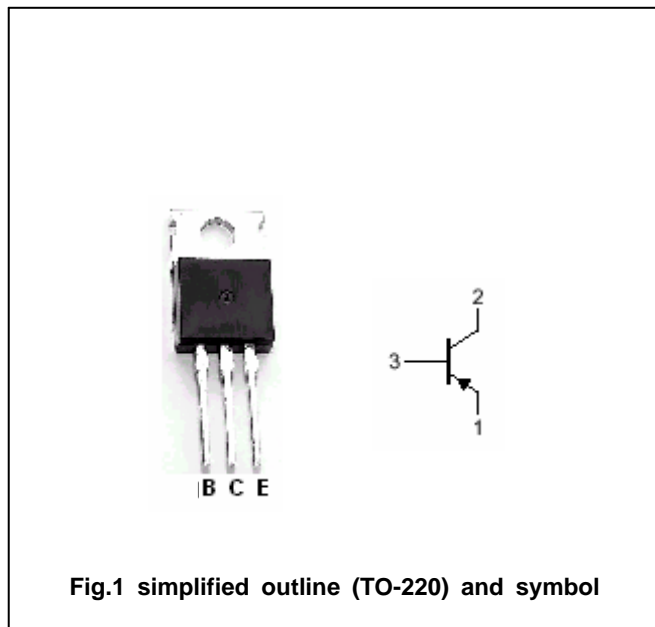


Fig.1 simplified outline (TO-220) and symbol

**Absolute maximum ratings(Ta=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-120	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-120	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-7	V
I <sub>C</sub>	Collector current		-10	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	

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## 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> =-1mA, R <sub>BE</sub> =	-120			V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =-50 μA, I <sub>E</sub> =0	-120			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =-50 μA, I <sub>C</sub> =0	-7			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-5A; I <sub>B</sub> =-0.5A		-0.9	-1.8	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =-5A; V <sub>CE</sub> =-5V		-1.25	-1.7	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-120V; I <sub>E</sub> =0			-50	μA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =-120V; I <sub>B</sub> =0			-1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-7V; I <sub>C</sub> =0			-50	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-1A; V <sub>CE</sub> =-5V	60		200	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-5A; V <sub>CE</sub> =-5V	40			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-1A; V <sub>CE</sub> =-10V; f=10MHz	30	60		MHz
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =-10V; f=1MHz		300	470	pF

## Switching times

t <sub>r</sub>	Rise time	I <sub>C</sub> =-7.5A; R <sub>L</sub> =4 I <sub>B1</sub> =-I <sub>B2</sub> =-0.75A;		0.15		μs
t <sub>stg</sub>	Storage time			0.5		μs
t <sub>f</sub>	Fall time			0.11		μs

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PACKAGE OUTLINE



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