

**Silicon PNP Power Transistors**

**BDX78**

**DESCRIPTION**

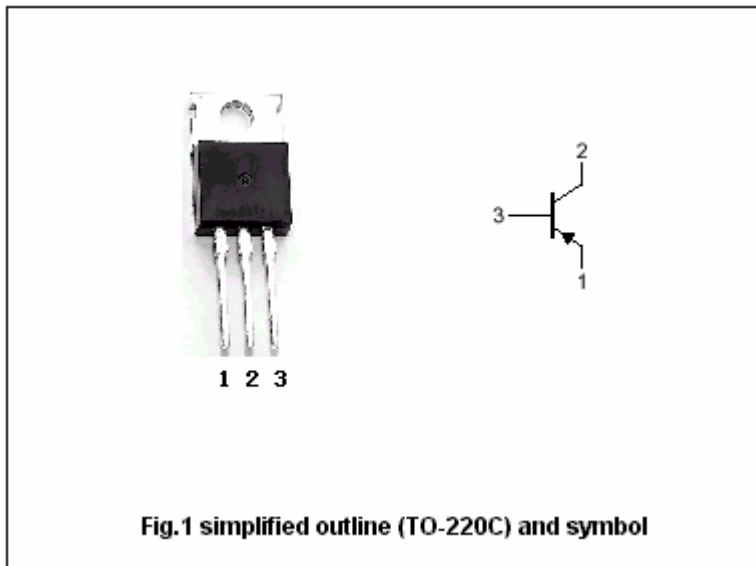
- With TO-220C package
- Complement to type BDX77

**APPLICATIONS**

- Medium power switching
- Amplifier

**PINNING**

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



**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-100	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-80	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V
I <sub>C</sub>	Collector current (DC)		-8	A
I <sub>CM</sub>	Collector current-Peak t <sub>p</sub> =10ms		-12	A
I <sub>B</sub>	Base current		-3	A
P <sub>tot</sub>	Total power dissipation	T <sub>mb</sub> =25°C	60	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-65~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
R <sub>th j-a</sub>	Thermal resistance from junction to ambient	70	K/W

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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> =-0.2A; I <sub>B</sub> =0	-80			V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =-1mA; I <sub>E</sub> =0	-100			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =-1mA; I <sub>C</sub> =0	-5			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-3A; I <sub>B</sub> =-0.3A			-1.0	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-6A; I <sub>B</sub> =-0.6A			-1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-6A; I <sub>B</sub> =-0.6A			-2.0	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =-3A ; V <sub>CE</sub> =-2V			-1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-40V; I <sub>E</sub> =0			-0.1	mA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =-30V; I <sub>B</sub> =0			-0.2	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-0.5	mA
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-0.3A ; V <sub>CE</sub> =-3V	7			MHz
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-2V	30			

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =2A I <sub>B1</sub> =-I <sub>B2</sub> =0.2A			1.0	μs
t <sub>off</sub>	Turn-off time				2.0	μs

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PACKAGE OUTLINE

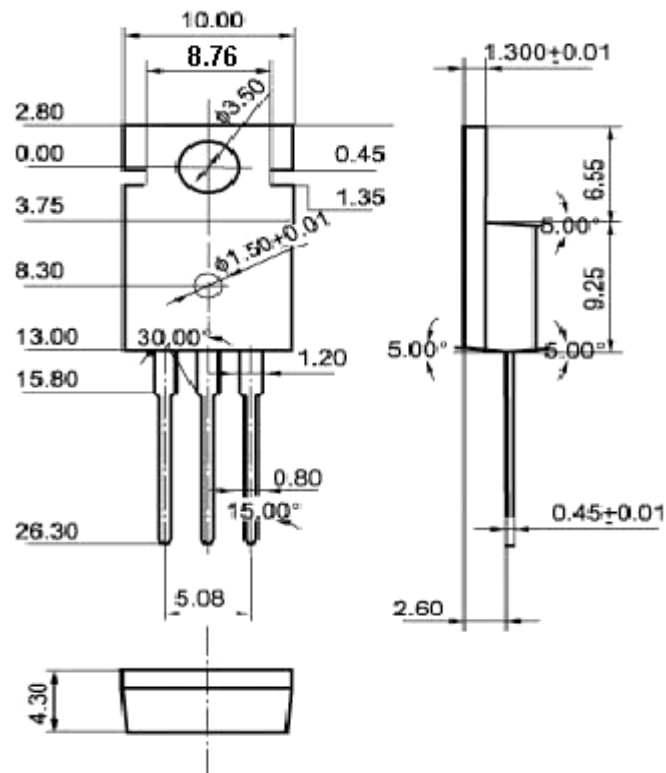


Fig.2 Outline dimensions