

Silicon NPN Power Transistors

BDX77

DESCRIPTION

www.datasheet4u.com

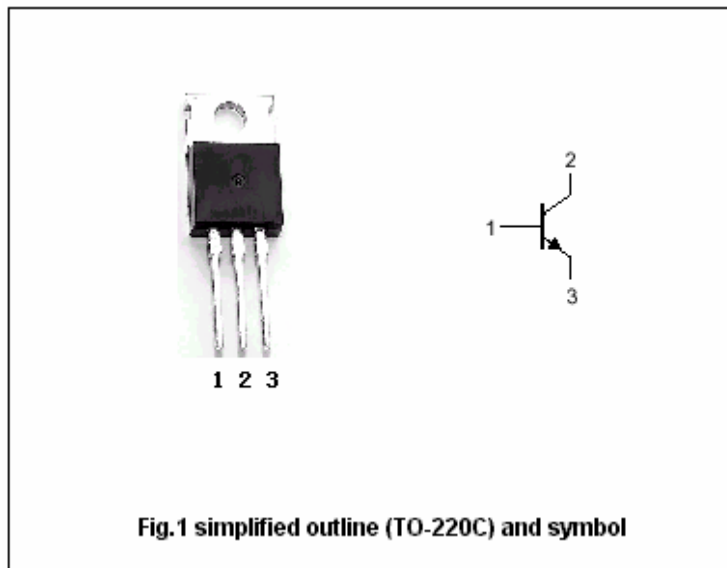
- With TO-220C package
- Low saturation voltage
- Complement to type BDX78
- Wide area of safe operation

APPLICATIONS

- For medium power switching and amplifier applications

PINNING

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



Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CB0}	Collector-base voltage	Open emitter	100	V
V _{CEO}	Collector-emitter voltage	Open base	80	V
V _{EB0}	Emitter -base voltage	Open collector	5	V
I _C	Collector current (DC)		8	A
I _{CM}	Collector current-Peak		12	A
I _B	Base current		3	A
P _T	Total power dissipation	T _C =25°C	60	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance junction to case	2.08	°C/W

Silicon NPN Power Transistors

BDX77

CHARACTERISTICS

www.datasheet4u.com

 $T_j=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=0.2\text{A}; I_B=0$	80			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=1\text{mA}; I_E=0$	100			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=1\text{mA}; I_C=0$	5			V
$V_{CEsat-1}$	Collector-emitter saturation voltage	$I_C=3\text{A}; I_B=0.3\text{A}$			1.0	V
$V_{CEsat-2}$	Collector-emitter saturation voltage	$I_C=6\text{A}; I_B=0.6\text{A}$			1.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=6\text{A}; I_B=0.6\text{A}$			2.0	V
I_{CEO}	Collector cut-off current	$V_{CE}=30\text{V}; I_B=0;$			0.2	mA
I_{CBO}	Collector cut-off current	$V_{CB}=40\text{V}; I_E=0; T_j=150^\circ\text{C}$			1.0	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=5\text{V}; I_C=0$			0.5	mA
h_{FE}	DC current gain	$I_C=1\text{A}; V_{CE}=2\text{V}$	30			
f_T	Transition frequency	$I_C=0.3\text{A}; V_{CE}=3\text{V}$	7.0			MHz
V_{BE}	Base-emitter on voltage	$I_C=3\text{A}; V_{CE}=2\text{V}$			1.5	V

Switching times

t_{on}	Turn-on time	$I_C=2\text{A}$ $I_{B1}=-I_{B2}=0.2\text{A};$			1.0	μs
t_{off}	Turn-off time				4.0	μs

Silicon NPN Power Transistors

BDX77

PACKAGE OUTLINE

www.datasheet4u.com

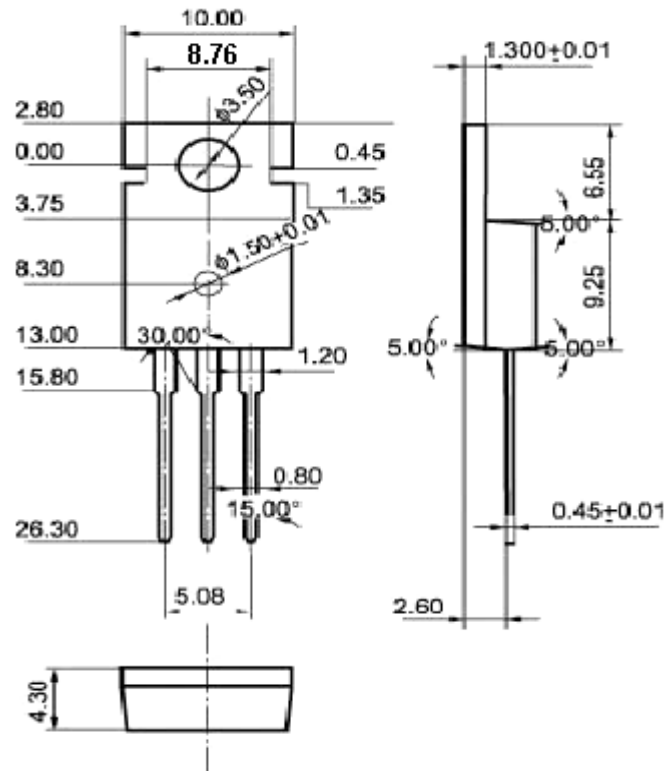


Fig.2 Outline dimensions (unindicated tolerance: ±0.10 mm)