

Silicon NPN Power Transistors

BDX77

DESCRIPTION

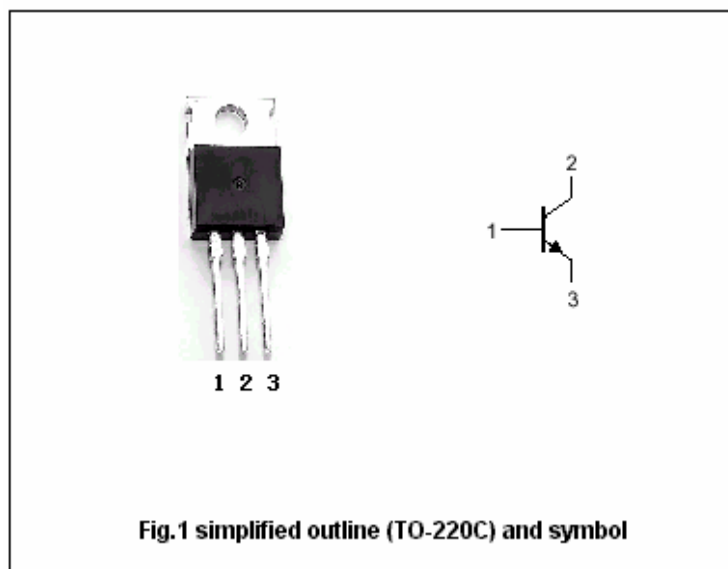
- With TO-220C package
- Low saturation voltage
- Complement to type BDX78
- Wide area of safe operation

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℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	100	V
V_{CEO}	Collector-emitter voltage	Open base	80	V
V_{EBO}	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	$T_C=25^\circ\text{C}$	60	W
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	2.08	℃/W

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =0.2A ; I _B =0	80			V
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =1mA ; I _E =0	100			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =1mA ; I _C =0	5			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =3A; I _B =0.3A			1.0	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =6A; I _B =0.6A			1.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =6A; I _B =0.6A			2.0	V
I _{CEO}	Collector cut-off current	V _{CE} =30V ; I _B =0;			0.2	mA
I _{CBO}	Collector cut-off current	V _{CB} =40V ; I _E =0; T _j =150°C			1.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			0.5	mA
h _{FE}	DC current gain	I _C =1A ; V _{CE} =2V	30			
f _T	Transition frequency	I _C =0.3A ; V _{CE} =3V	7.0			MHz
V _{BE}	Base-emitter on voltage	I _C =3A; V _{CE} =2V			1.5	V

Switching times

t _{on}	Turn-on time	I _C =2A I _{B1} =-I _{B2} =0.2A;			1.0	μs
t _{off}	Turn-off time				4.0	μs

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PACKAGE OUTLINE

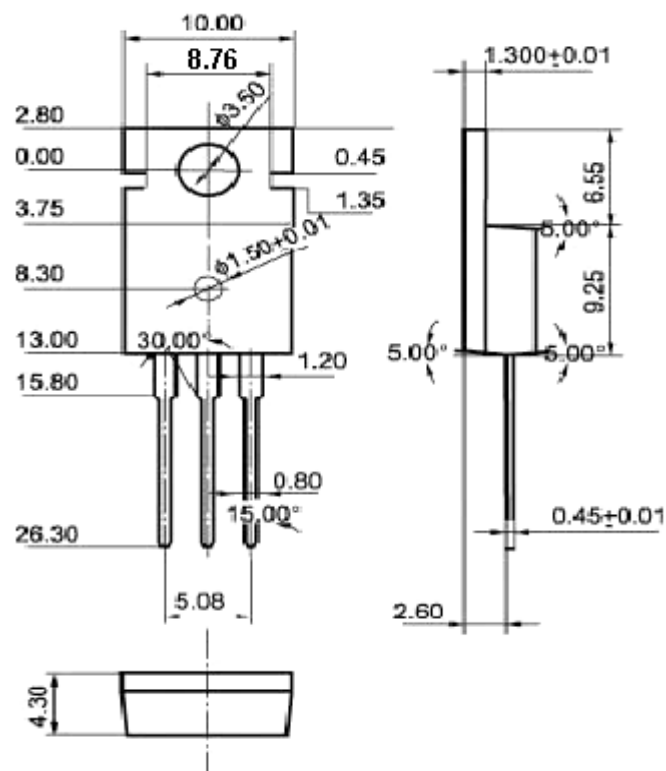


Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)