

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

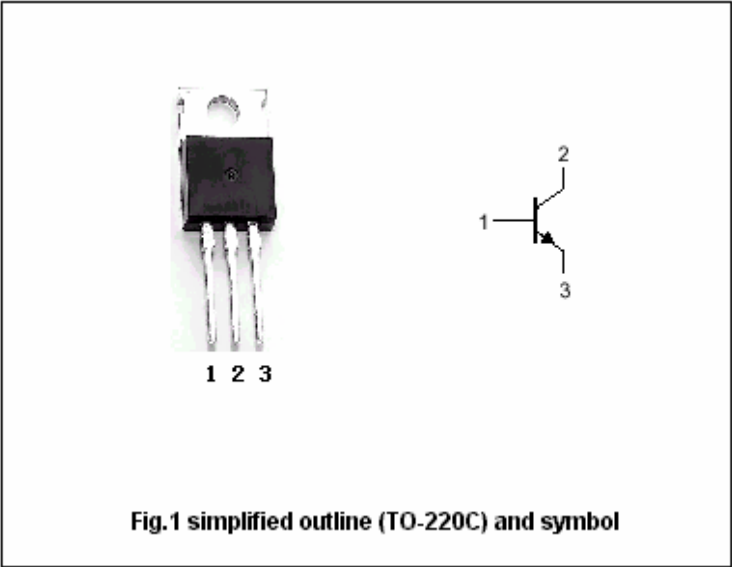


Fig.1 simplified outline (TO-220C) and symbol

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_{BM}	Base current-Peak		3	A
P_T	Total power dissipation	$T_C=25$	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

Tj=25 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	$V_{CB}=40V$; $I_E=0$; $T_j=150$			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

