

Silicon PNP Power Transistors

BDX78

DESCRIPTION

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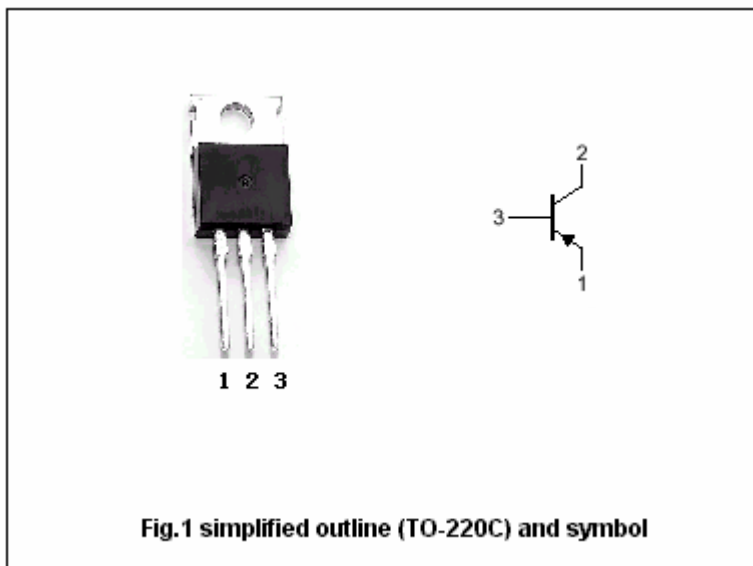
- With TO-220C package
- Complement to type BDX77

APPLICATIONS

- Medium power switching
- Amplifier

PINNING

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

Absolute maximum ratings($T_a=25^\circ\text{C}$)

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 $t_p=10\text{ms}$		-12	A
I_B	Base current		-3	A
P_{tot}	Total power dissipation	$T_{mb}=25^\circ\text{C}$	60	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-a}$	Thermal resistance from junction to ambient	70	K/W

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CHARACTERISTICS

Tj=25°C unless otherwise specified

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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
V_{BE}	Base-emitter on voltage	$I_C = -3A$; $V_{CE} = -2V$			-1.5	V
I_{CBO}	Collector cut-off current	$V_{CB} = -40V$; $I_E = 0$			-0.1	mA
I_{CEO}	Collector cut-off current	$V_{CE} = -30V$; $I_B = 0$			-0.2	mA
I_{EBO}	Emitter cut-off current	$V_{EB} = -5V$; $I_C = 0$			-0.5	mA
f_T	Transition frequency	$I_C = -0.3A$; $V_{CE} = -3V$	7			MHz
h_{FE}	DC current gain	$I_C = -1A$; $V_{CE} = -2V$	30			

Switching times

t_{on}	Turn-on time	$I_C = 2A$ $I_{B1} = -I_{B2} = 0.2A$			1.0	μs
t_{off}	Turn-off time				2.0	μs

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