

Silicon NPN Power Transistors

BDX35

DESCRIPTION

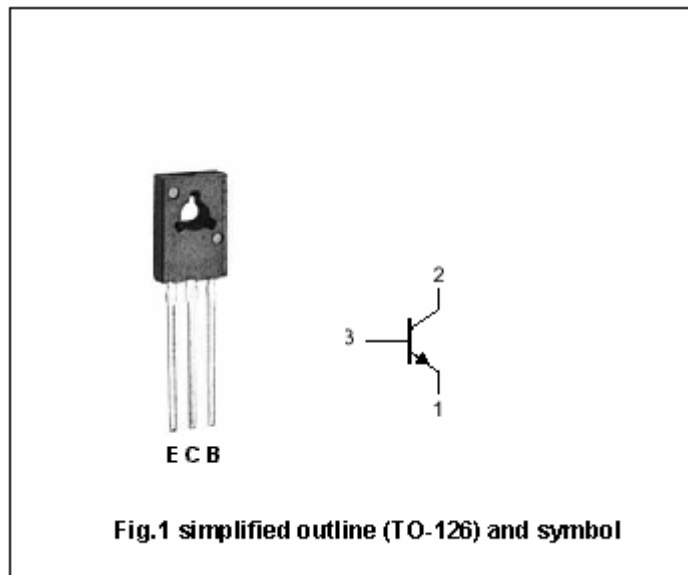
- With TO-126 package
- High current (Max: 5A)

APPLICATIONS

- High current switching in power applications

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	60	V
V_{EBO}	Emitter -base voltage	Open collector	5	V
I_C	Collector current (DC)		5	A
I_{CM}	Collector current-Peak		10	A
I_{BM}	Base current-Peak		2	A
P_T	Total power dissipation	$T_{mb} \leq 75^\circ\text{C}$	15	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	100	K/W
$R_{th\ j-mb}$	Thermal resistance from junction to mounting base	5	K/W

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CHARACTERISTICS

T_j=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =5A; I _B =0.5A			0.9	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =7A; I _B =0.7A			1.2	V
V _{BEsat-1}	Base-emitter saturation voltage	I _C =5A; I _B =0.5A			1.7	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =7A; I _B =0.7A			2.0	V
I _{CBO}	Collector cut-off current	V _{CB} =80V; I _E =0 T _j =100℃			0.1 10	μA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			0.1	μA
h _{FE}	DC current gain	I _C =0.5A ; V _{CE} =10V	45		450	
C _C	Collector capacitance	I _E =0; V _{CB} =10V ; f=1MHz		40		pF
f _T	Transition frequency	I _C =0.5A; V _{CE} =5V ; f=100MHz		100		MHz

Switching times

t _{on}	Turn-on time	I _{Con} =1A; I _{Bon} =-I _{Boff} =0.1A		60	100	ns
		I _{Con} =2A; I _{Bon} =-I _{Boff} =0.2A			80	
		I _{Con} =5A; I _{Bon} =-I _{Boff} =0.5A		180	300	
t _{off}	turn-off time	I _{Con} =1A; I _{Bon} =-I _{Boff} =0.1A		600	800	ns
		I _{Con} =2A; I _{Bon} =-I _{Boff} =0.2A		450	700	
		I _{Con} =5A; I _{Bon} =-I _{Boff} =0.5A		350	500	

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PACKAGE OUTLINE

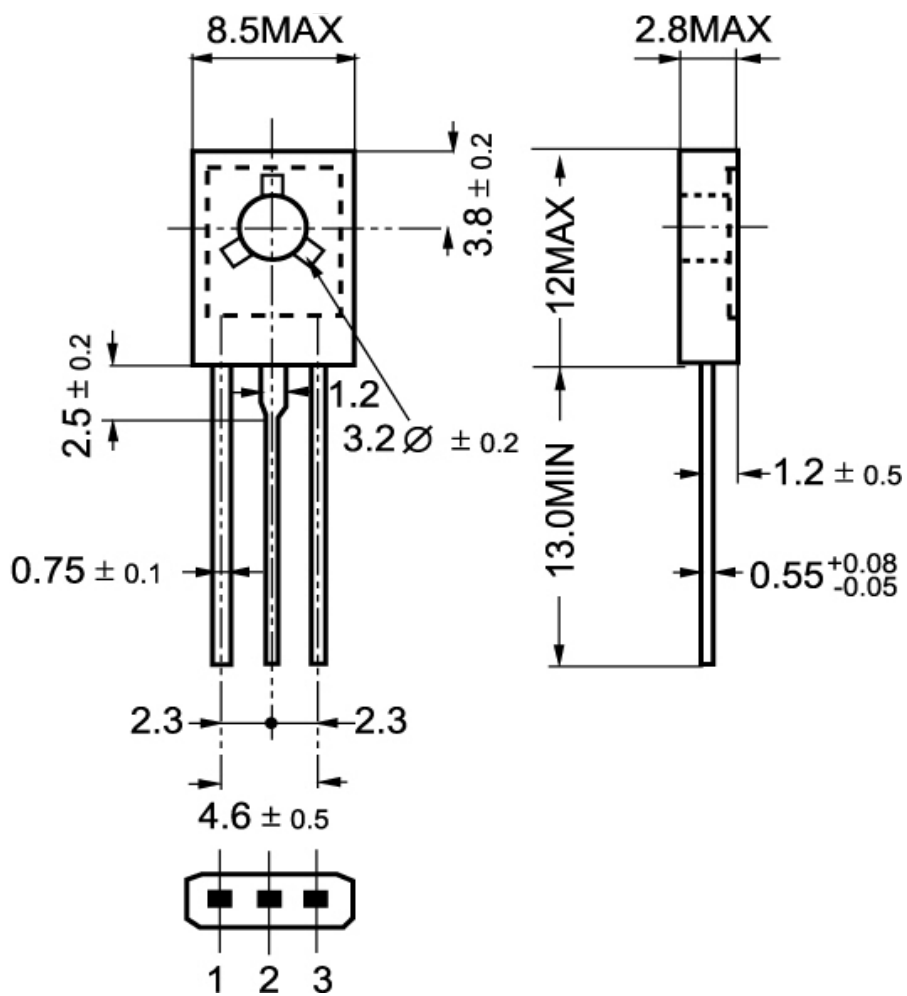


Fig.2 Outline dimensions