

Silicon NPN Power Transistors

BDX35

DESCRIPTION

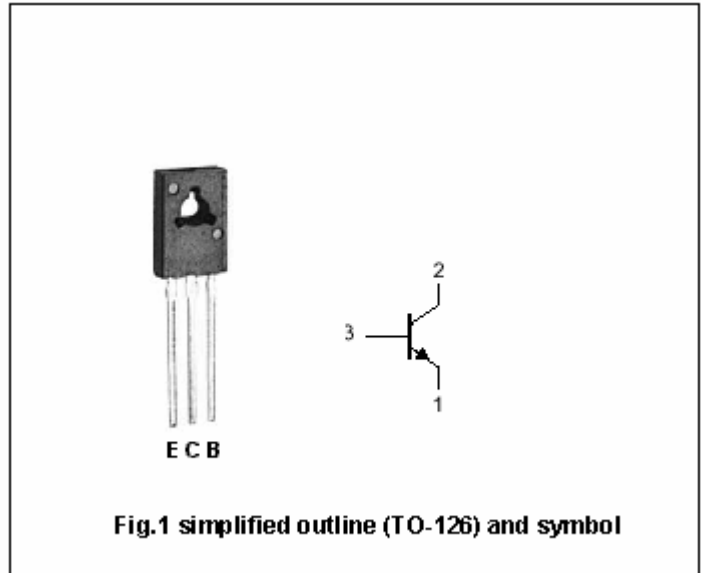
- With TO-126 package
- High current (Max: 5A)

APPLICATIONS

- High current switching in power applications

PINNING

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



Absolute maximum ratings (Ta=25 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	100	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	60	V
V <sub>EBO</sub>	Emitter -base voltage	Open collector	5	V
I <sub>C</sub>	Collector current (DC)		5	A
I <sub>CM</sub>	Collector current-Peak		10	A
I <sub>BM</sub>	Base current-Peak		2	A
P <sub>T</sub>	Total power dissipation	T <sub>mb</sub> 75	15	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-65~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R <sub>th j-a</sub>	Thermal resistance from junction to ambient	100	K/W
R <sub>th j-mb</sub>	Thermal resistance from junction to mounting base	5	K/W

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## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =0.5A			0.9	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =7A; I <sub>B</sub> =0.7A			1.2	V
V <sub>BEsat-1</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =0.5A			1.7	V
V <sub>BEsat-2</sub>	Base-emitter saturation voltage	I <sub>C</sub> =7A; I <sub>B</sub> =0.7A			2.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =80V; I <sub>E</sub> =0 T <sub>j</sub> =100			0.1 10	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			0.1	μA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V	45		450	
C <sub>C</sub>	Collector capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V ; f=1MHz		40		pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V ; f=100MHz		100		MHz

## Switching times

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

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PACKAGE OUTLINE

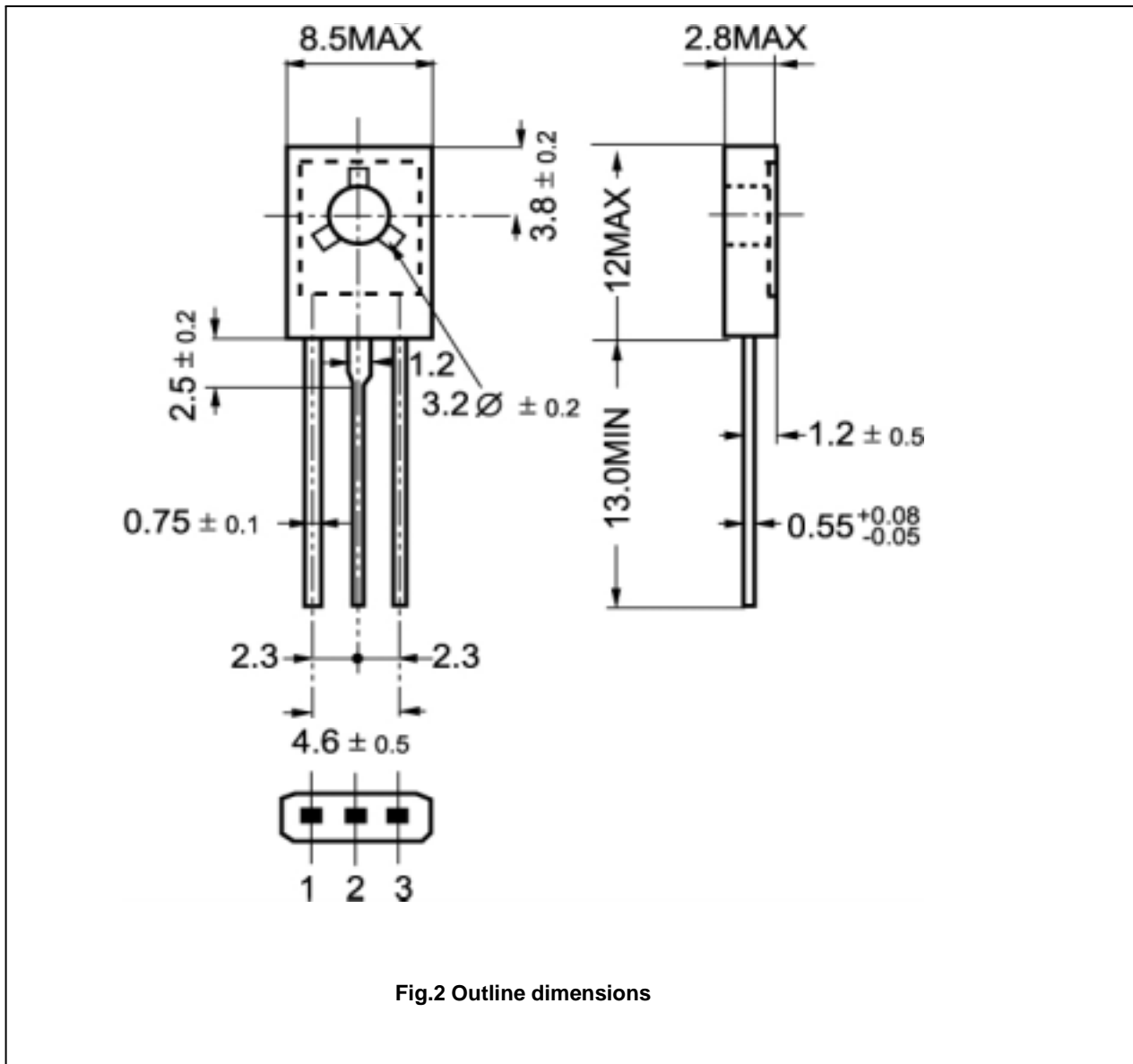


Fig.2 Outline dimensions