Silicon NPN Power Transistors BDX37

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

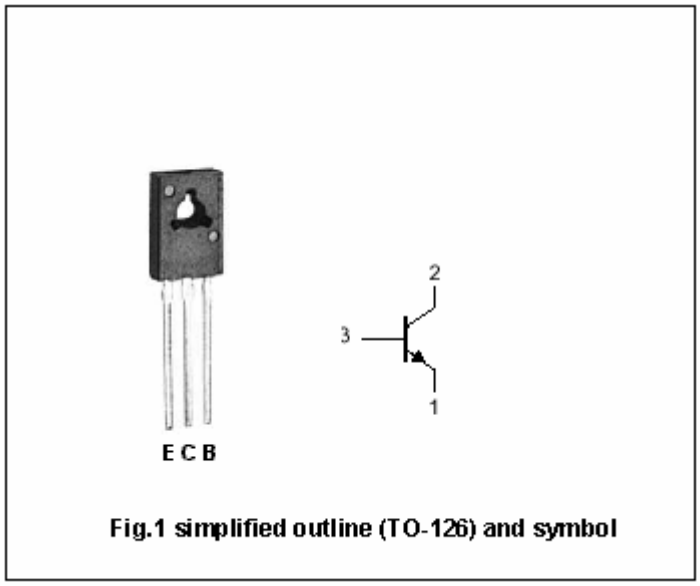

Fig.1 simplified outline (TO-126) and symbol

Absolute maximum ratings (Ta=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	120	V
V_{CEO}	Collector-emitter voltage	Open base	75	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}≤75□	15	W
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-65~150	□

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j\text{-}a}$	Thermal resistance from junction to ambient	100	K/W
$R_{th\ j\text{-}mb}$	Thermal resistance from junction to mounting base	5	K/W

CHARACTERISTICS

Tj=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}=100V; 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	

PACKAGE OUTLINE

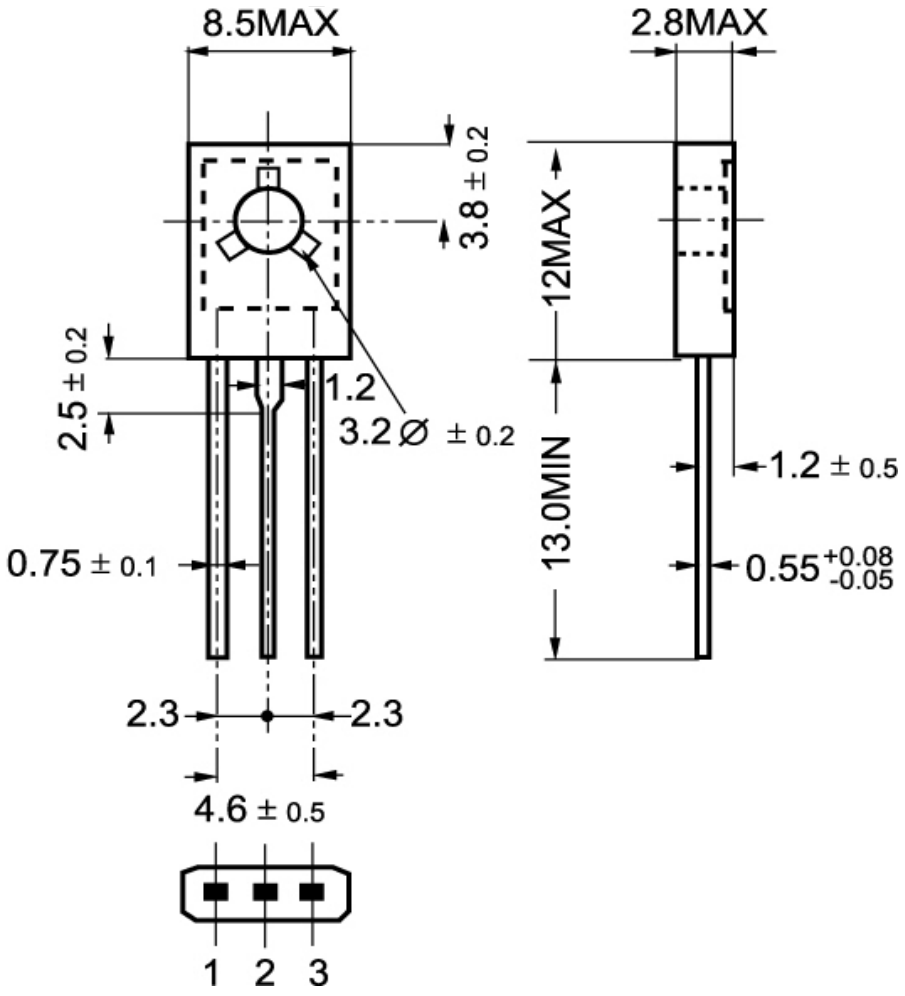

Fig.2 Outline dimensions