

**Silicon NPN Power Transistors**

**BD433/435/437**

**DESCRIPTION**

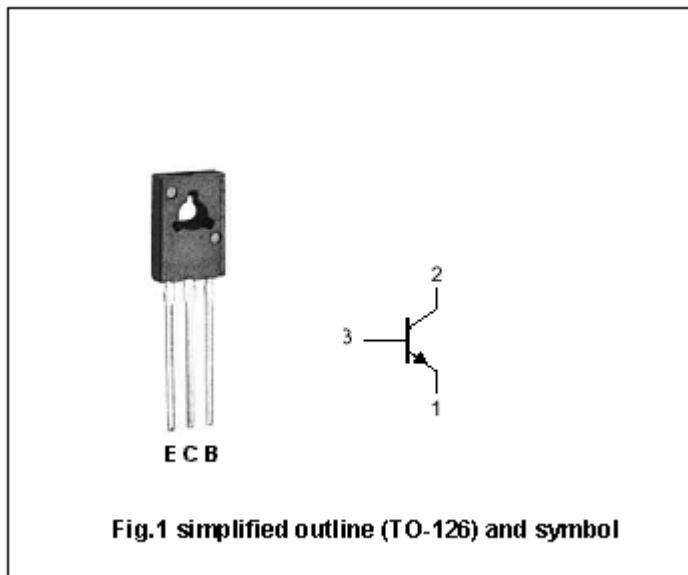
- With TO-126 package
- Complement to type BD434/436/438

**APPLICATIONS**

- For medium power linear and switching applications

**PINNING**

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



**Absolute maximum ratings (Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	BD433	22	V
		BD435	32	
		BD437	45	
V <sub>CEO</sub>	Collector-emitter voltage	BD433	22	V
		BD435	32	
		BD437	45	
V <sub>EBO</sub>	Emitter -base voltage	Open collector	5	V
I <sub>C</sub>	Collector current (DC)		4	A
I <sub>CM</sub>	Collector current-Peak		7	A
I <sub>B</sub>	Base current		1	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	36	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-65~150	°C

## Silicon NPN Power Transistors

## BD433/435/437

## CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEsat</sub>	Collector-emitter saturation voltage	BD433/435	I <sub>C</sub> =2A; I <sub>B</sub> =0.2A		0.2	0.5	V
		BD437				0.6	
V <sub>BE</sub>	Base-emitter on voltage	BD433/435	I <sub>C</sub> =2A ; V <sub>CE</sub> =1V			1.1	V
		BD437				1.2	
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	BD433	I <sub>C</sub> =0.1A; I <sub>B</sub> =0			22	V
		BD435				32	
		BD437				45	
I <sub>CES</sub>	Collector cut-off current	BD433	V <sub>CB</sub> =22V; I <sub>E</sub> =0			100	μA
		BD435	V <sub>CB</sub> =32V; I <sub>E</sub> =0				
		BD437	V <sub>CB</sub> =45V; I <sub>E</sub> =0				
I <sub>CES</sub>	Collector cut-off current	BD433	V <sub>CE</sub> =22V; V <sub>BE</sub> =0			100	μA
		BD435	V <sub>CE</sub> =32V; V <sub>BE</sub> =0				
		BD437	V <sub>CE</sub> =45V; V <sub>BE</sub> =0				
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V; I <sub>C</sub> =0			1	mA
h <sub>FE-1</sub>	DC current gain	BD433/435	I <sub>C</sub> =10mA ; V <sub>CE</sub> =5V			40	130
		BD437				30	
h <sub>FE-2</sub>	DC current gain		I <sub>C</sub> =0.5A ; V <sub>CE</sub> =1V			85	140
h <sub>FE-3</sub>	DC current gain	BD433/435	I <sub>C</sub> =2A ; V <sub>CE</sub> =1V			50	
		BD437				40	
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =250mA; V <sub>CE</sub> =1V			3	MHz

Silicon NPN Power Transistors

BD433/435/437

PACKAGE OUTLINE

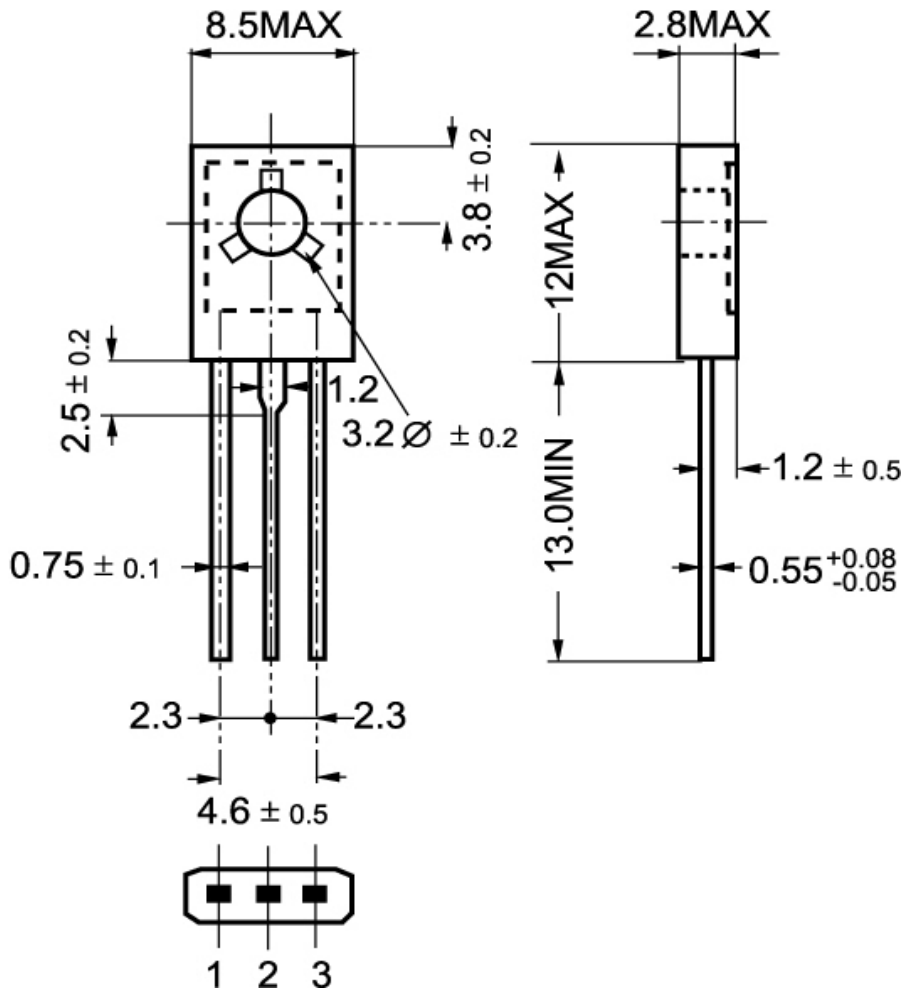


Fig.2 Outline dimensions