

Silicon NPN Power Transistors

BD439 BD441

DESCRIPTION

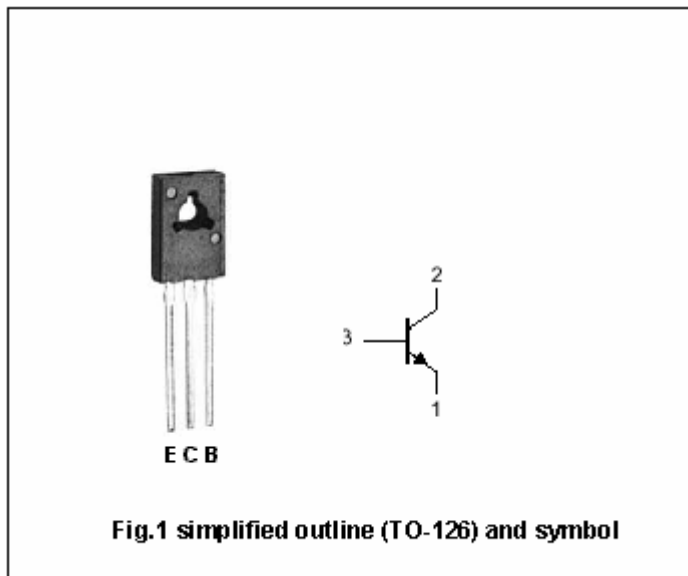
- With TO-126 package
- Complement to type BD440, BD442

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 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	BD439	60	V
		BD441	80	
V <sub>CEO</sub>	Collector-emitter voltage	BD439	60	V
		BD441	80	
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	36	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-65~150	

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =2A; I <sub>B</sub> =0.2A			0.8	V	
V <sub>BE-1</sub>	Base-emitter on voltage	I <sub>C</sub> =10mA; V <sub>CE</sub> =5V		0.58		V	
V <sub>BE-2</sub>	Base-emitter on voltage	I <sub>C</sub> =2A; V <sub>CE</sub> =1V			1.5	V	
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	BD439	I <sub>C</sub> =0.1A; I <sub>B</sub> =0	60		V	
		BD441		80			
I <sub>CBO</sub>	Collector cut-off current	BD439	V <sub>CB</sub> =60V; I <sub>E</sub> =0			100	μA
		BD441		V <sub>CB</sub> =80V; I <sub>E</sub> =0			
I <sub>CES</sub>	Collector cut-off current	BD439	V <sub>CE</sub> =60V; V <sub>BE</sub> =0			100	μA
		BD441		V <sub>CE</sub> =80V; 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	BD439	I <sub>C</sub> =10mA; V <sub>CE</sub> =5V	20		130	
		BD441		15			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =0.5A; V <sub>CE</sub> =1V	40		140		
h <sub>FE-3</sub>	DC current gain	BD439	I <sub>C</sub> =2A; V <sub>CE</sub> =1V	25			
		BD441		15			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =250mA; V <sub>CE</sub> =1V	3			MHz	

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PACKAGE OUTLINE

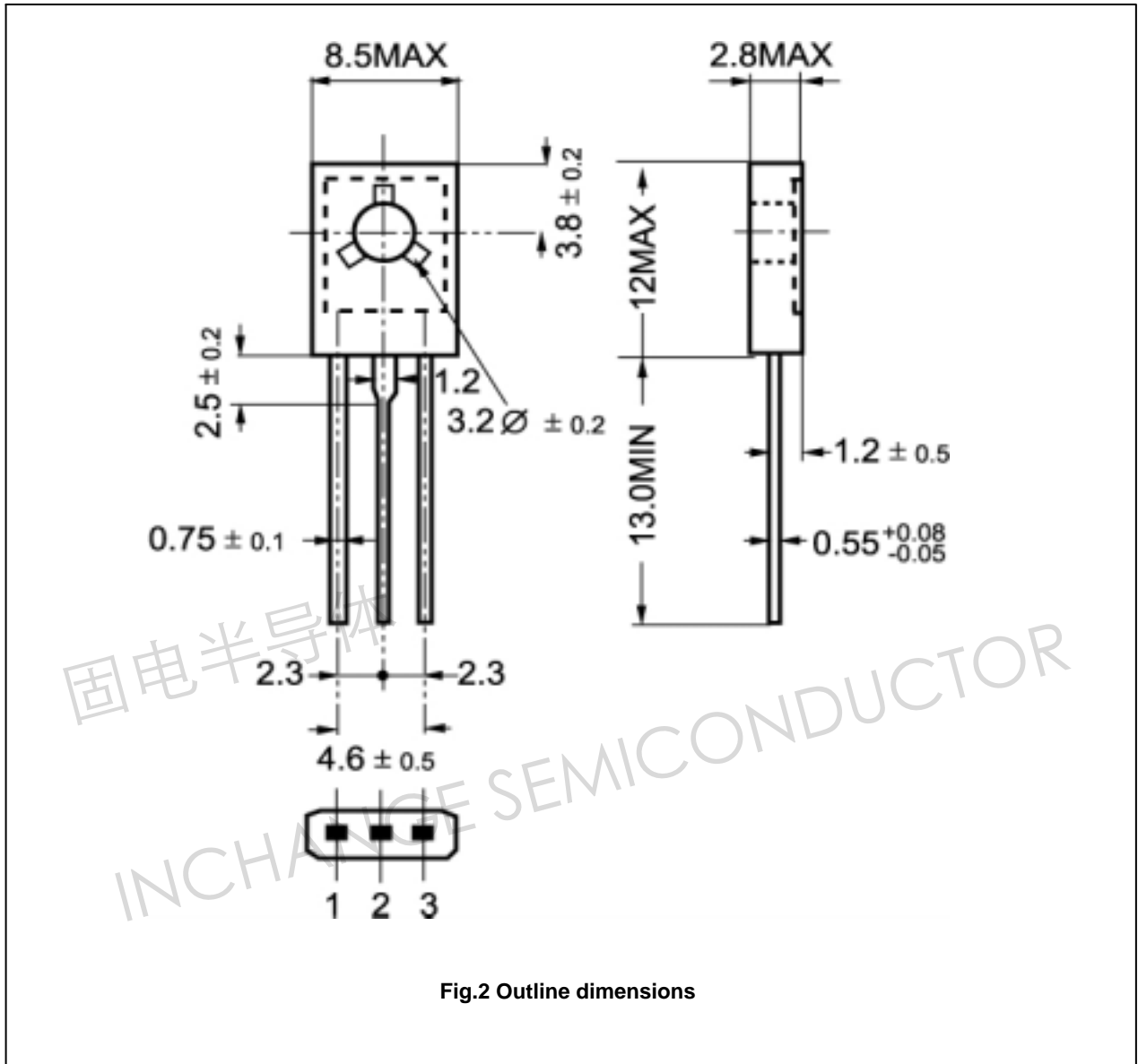


Fig.2 Outline dimensions