

Silicon NPN Power Transistors

BD239/A/B/C

DESCRIPTION

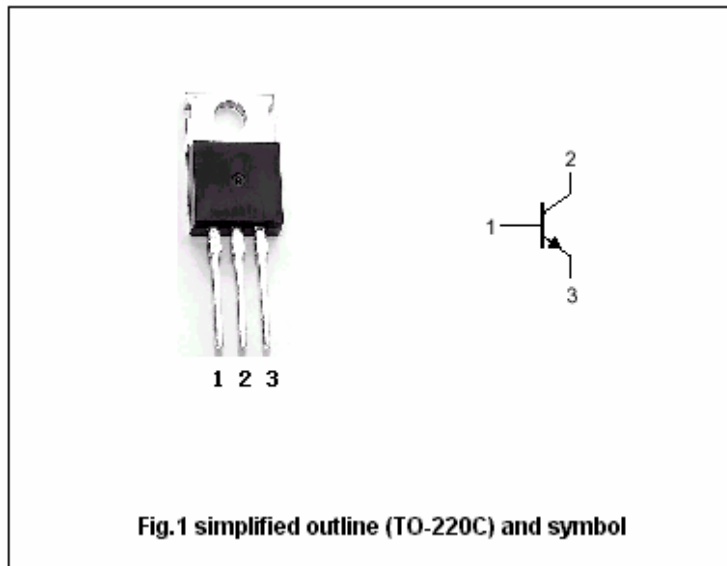
- With TO-220C package
- Complement to type BD240/A/B/C

APPLICATIONS

- For medium power linear and switching applications

PINNING

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



Absolute maximum ratings (Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT	
V _{CBO}	Collector-base voltage	Open emitter	BD239	55	V
			BD239A	70	
			BD239B	90	
			BD239C	115	
V _{CEO}	Collector-emitter voltage	Open base	BD239	45	V
			BD239A	60	
			BD239B	80	
			BD239C	100	
V _{EBO}	Emitter-base voltage	Open collector	5	V	
I _C	Collector current		2	A	
I _{CM}	Collector current-peak		4	A	
I _B	Base current		0.6	A	
P _C	Collector power dissipation	T _C =25	30	W	
T _j	Junction temperature		150		
T _{stg}	Storage temperature		-65~150		

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V _{CEO(SUS)}	Collector-emitter sustaining voltage	BD239	I _C =30mA; I _B =0			V	
		BD239A					
		BD239B					
		BD239C					
V _{CEsat}	Collector-emitter saturation voltage	I _C =1 A; I _B =0.2 A			0.7	V	
V _{BE}	Base-emitter on voltage	I _C =1 A; V _{CE} =4V			1.3	V	
I _{CEO}	Collector cut-off current	BD239/A	V _{CE} =30V; I _B =0			0.3	mA
		BD239B/C	V _{CE} =60V; I _B =0				
I _{CES}	Collector cut-off current	BD239	V _{CE} =45V; V _{BE} =0			0.2	mA
		BD239A	V _{CE} =60V; V _{BE} =0				
		BD239B	V _{CE} =80V; V _{BE} =0				
		BD239C	V _{CE} =100V; V _{BE} =0				
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			1	mA	
h _{FE-1}	DC current gain	I _C =0.2A; V _{CE} =4V	40				
h _{FE-2}	DC current gain	I _C =1A; V _{CE} =4V	15				

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PACKAGE OUTLINE

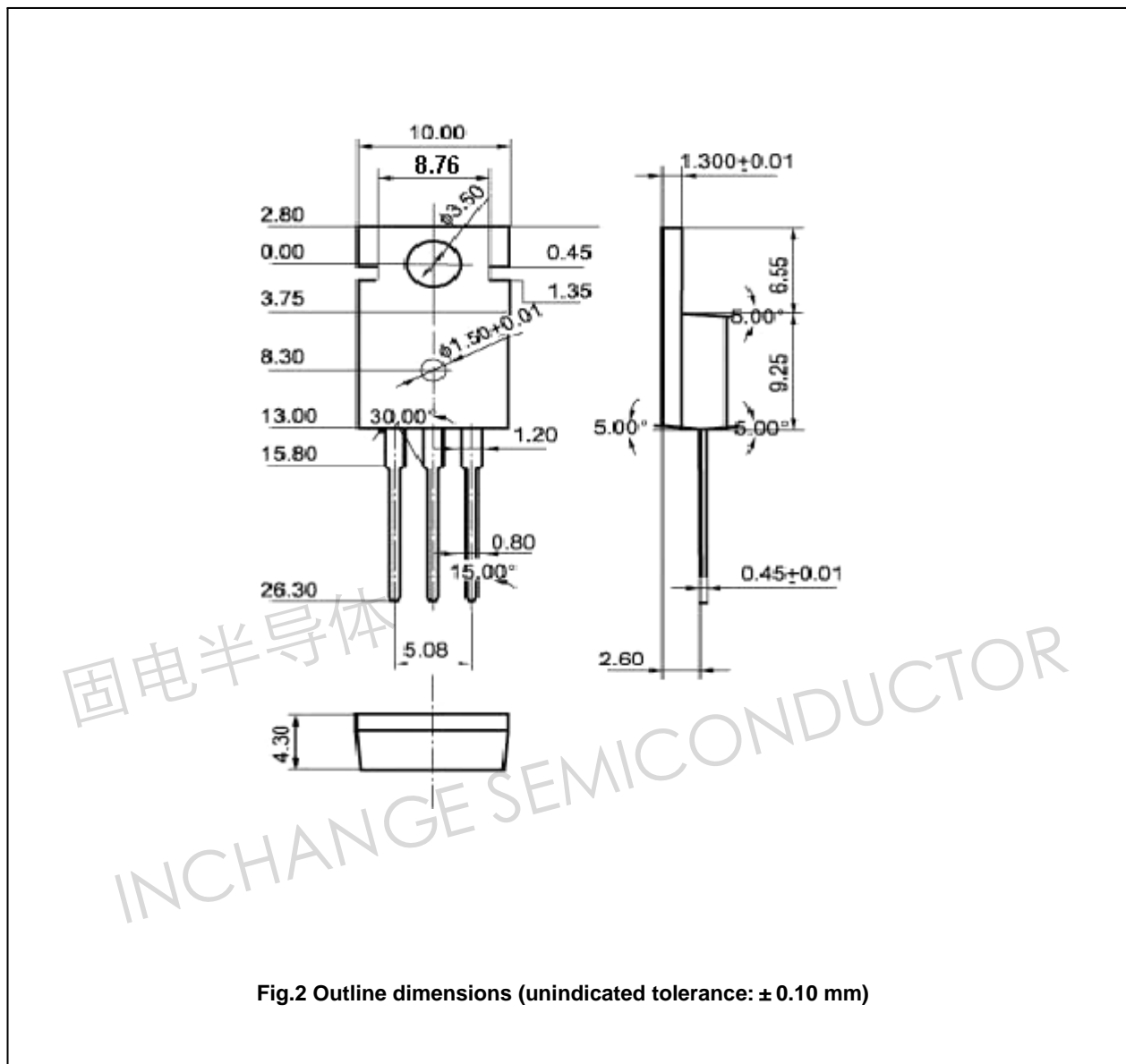


Fig.2 Outline dimensions (unindicated tolerance: ±0.10 mm)