

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

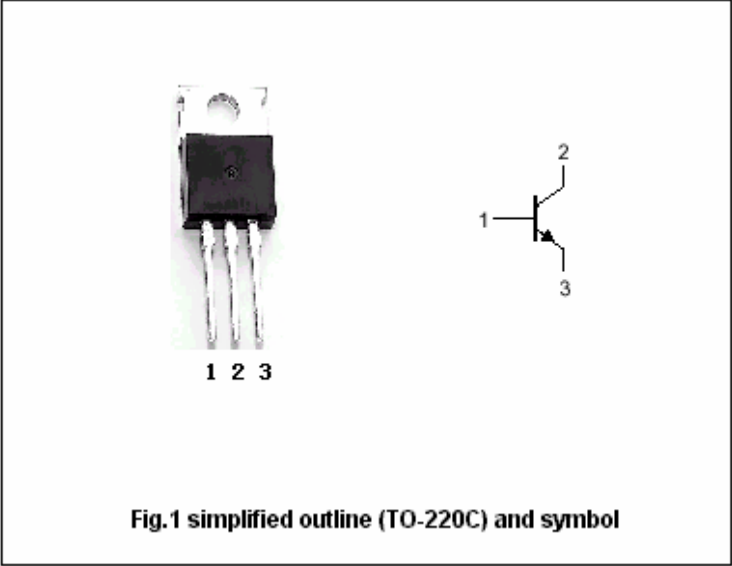


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings (Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	55	V
			70	
			90	
			115	
V _{CEO}	Collector-emitter voltage	Open base	45	V
			60	
			80	
			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	45			V
		BD239A		60			
		BD239B		80			
		BD239C		100			
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 =1A ; 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

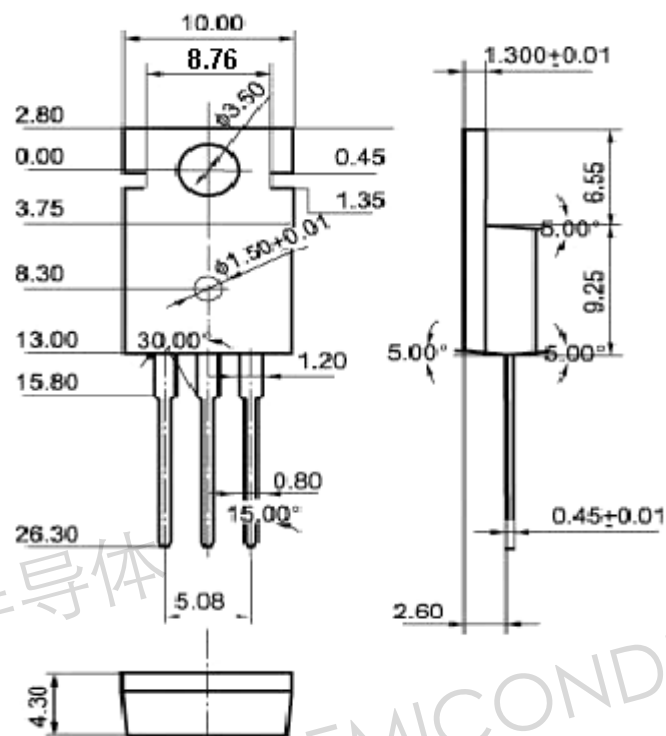


Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)