

Silicon NPN Power Transistors

BD533/535/537

DESCRIPTION

- With TO-220C package
- Complement to type BD534/536/538
- Low saturation voltage

APPLICATIONS

- For medium power linear and switching applications

PINNING

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

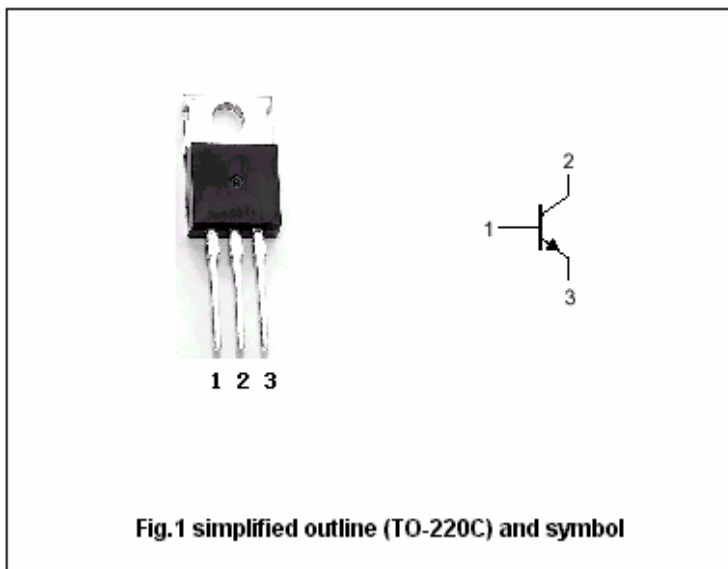


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	BD533	45	V
		BD535	60	
		BD537	80	
V <sub>CEO</sub>	Collector-emitter voltage	BD533	45	V
		BD535	60	
		BD537	80	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		8	A
I <sub>E</sub>	Emitter current		8	A
I <sub>B</sub>	Base current		1	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	50	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-65~150	°C

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## CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =2 A; I <sub>B</sub> =0.2 A			0.8	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =6 A; I <sub>B</sub> =0.6 A		0.8		V
V <sub>BE</sub>	Base-emitter on voltage		I <sub>C</sub> =2A ; V <sub>CE</sub> =2V			1.5	V
I <sub>CBO</sub>	Collector cut-off current	BD533	V <sub>CB</sub> =45V; I <sub>E</sub> =0			0.1	mA
		BD535	V <sub>CB</sub> =60V; I <sub>E</sub> =0				
		BD537	V <sub>CB</sub> =80V; I <sub>E</sub> =0				
I <sub>CES</sub>	Collector cut-off current	BD533	V <sub>CE</sub> =45V; V <sub>BE</sub> =0			0.1	mA
		BD535	V <sub>CE</sub> =60V; V <sub>BE</sub> =0				
		BD537	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	BD533/535	I <sub>C</sub> =10mA ; V <sub>CE</sub> =5V	20			
		BD537		15			
h <sub>FE-2</sub>	DC current gain		I <sub>C</sub> =0.5A ; V <sub>CE</sub> =2V	40			
h <sub>FE-3</sub>	DC current gain (All device)	Group: J	I <sub>C</sub> =2A ; V <sub>CE</sub> =2V	30		75	
		Group: K		40		100	
h <sub>FE-4</sub>	DC current gain (All device)	Group: J	I <sub>C</sub> =3A ; V <sub>CE</sub> =2V	15			
		Group: K		20			
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =0.5A ; V <sub>CE</sub> =1V	3	12		MHz

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PACKAGE OUTLINE



Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10$  mm)