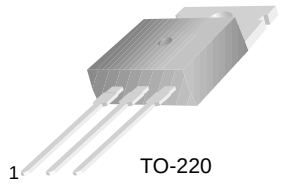
FAIRCHILD
SEMICONDUCTOR TM

BD533/535/537

Medium Power Linear and Switching Applications

- Low Saturation Voltage
- Complement to BD534, BD536 and BD538 respectively



TO-220

NPN Epitaxial Silicon Transistor

1.Base 2.Collector 3.Emitter

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter		Value	Units
V_{CBO}	Collector-Base Voltage	: BD533	45	V
		: BD535	60	V
		: BD537	80	V
V_{CES}	Collector-Emitter Voltage	: BD533	45	V
		: BD535	60	V
		: BD537	80	V
V_{CEO}	Collector-Emitter Voltage	: BD533	45	V
		: BD535	60	V
		: BD537	80	V
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current		8	A
I_B	Base Current		1	A
P_C	Collector Dissipation (T_C=25°C)		50	W
T_J	Junction Temperature		150	°C
T_{STG}	Storage Temperature		- 65 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter		Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	: BD533	V_{CB} = 45V, I_E = 0			100	μA
		: BD535	V_{CB} = 60V, I_E = 0			100	μA
		: BD537	V_{CB} = 80V, I_E = 0			100	μA
I_{CES}	Collector Cut-off Current	: BD533	V_{CE} = 45V, V_{BE} = 0			100	μA
		: BD535	V_{CE} = 60V, V_{BE} = 0			100	μA
		: BD537	V_{CE} = 80V, V_{BE} = 0			100	μA
I_{EBO}	Emitter Cut-off Current		V_{EB} = 5V, I_C = 0			1	mA
h_{FE}	* DC Current Gain	: BD533/535	V_{CE} = 5V, I_C = 10mA	20			
		: BD537		15			
		: ALL DEVICE	V_{CE} = 2V, I_C = 500mA	40			
		: BD533/535	V_{CE} = 2V, I_C = 2A	25			
		: BD537		15			
h_{FE}	h_{FE} Groups						
	J	: ALL DEVICE	V_{CE} = 2V, I_C = 2A	30		75	
			V_{CE} = 2V, I_C = 3A	15			
	K	: ALL DEVICE	V_{CE} = 2V, I_C = 2A	40		100	
			V_{CE} = 2V, I_C = 3A	20			
V_{CE}(sat)	* Collector-Emitter Saturation Voltage		I_C = 2A, I_B = 0.2A			0.8	V
			I_C = 6A, I_B = 0.6A		0.8		V
V_{BE}(on)	* Base-Emitter ON Voltage		V_{CE} = 2V, I_C = 2A			1.5	V
f_T	Current Gain Bandwidth Product		V_{CE} = 1V, I_C = 500mA	3	12		MHz

* Pulse Test: PW =300μs, duty Cycle =1.5% Pulsed

Typical characteristics

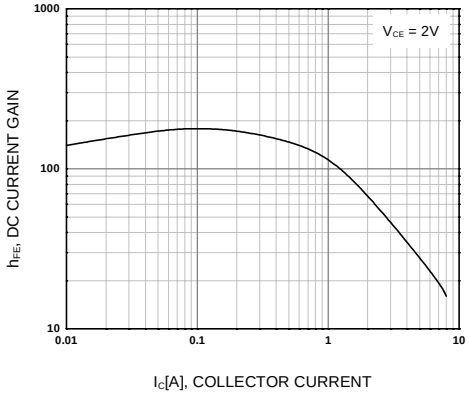


Figure 1. DC current Gain

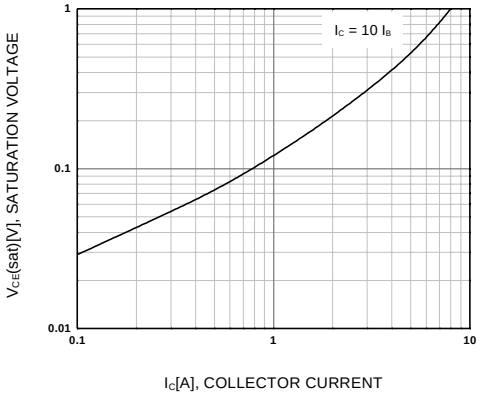


Figure 2. Collector-Emitter Saturation Voltage

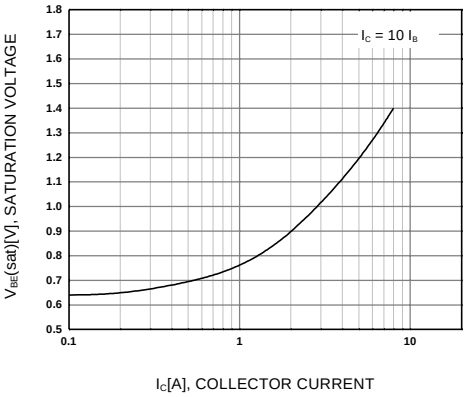


Figure 3. Base-Emitter Saturation Voltage

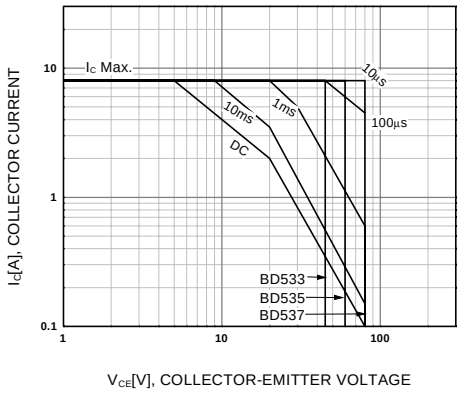


Figure 4. Safe Operating Area

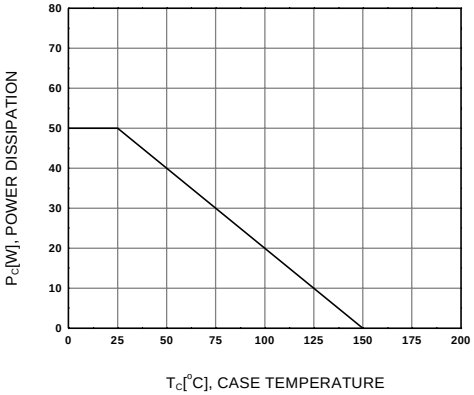
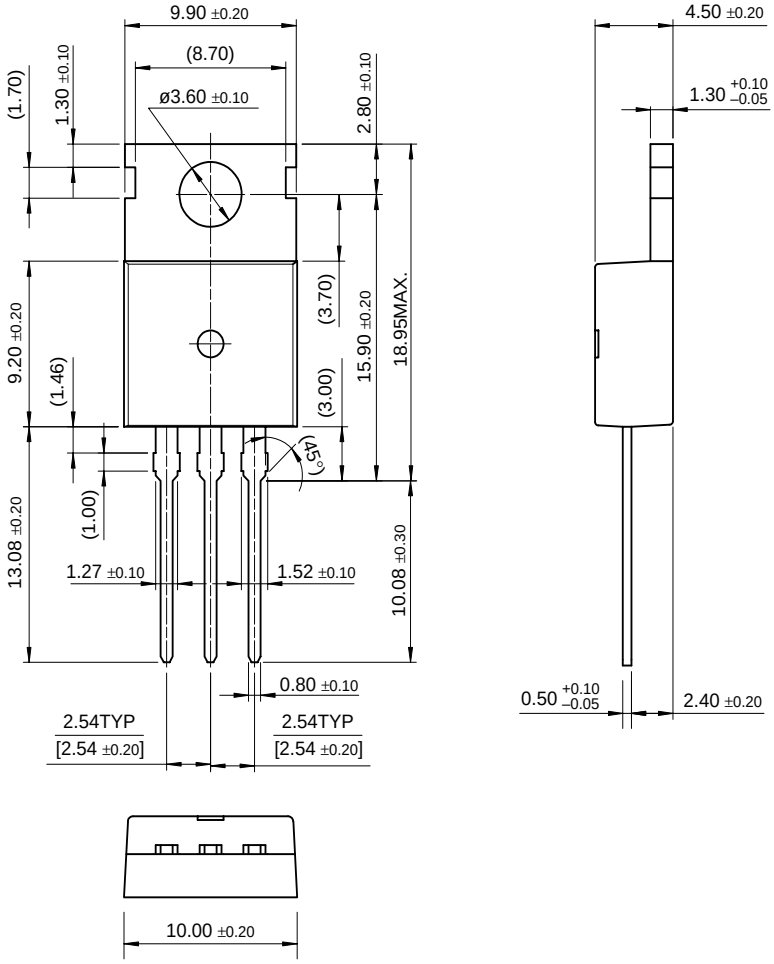


Figure 5. Power Derating

Package Demensions

TO-220



Dimensions in Millimeters

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