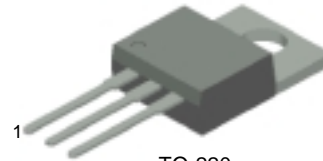


# BD533/535/537

## Medium Power Linear and Switching Applications

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



TO-220

1.Base 2.Collector 3.Emitter

## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

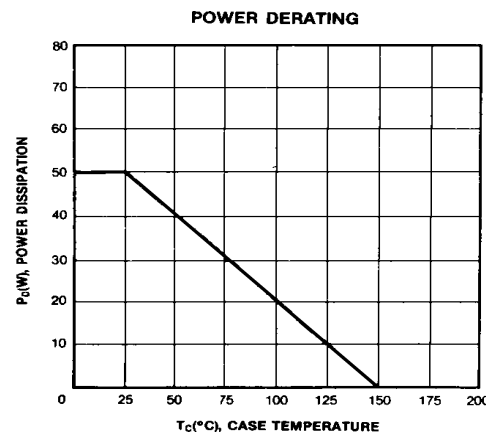
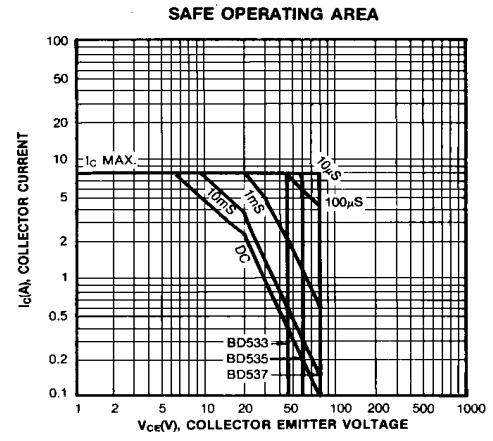
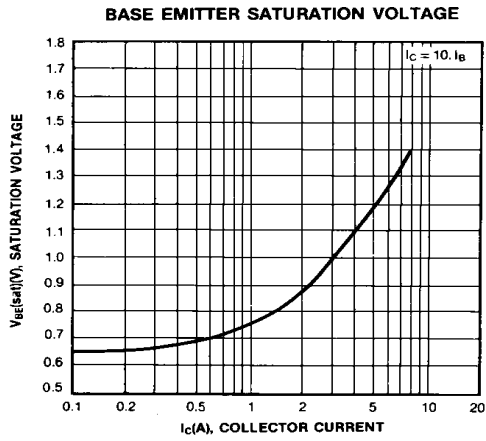
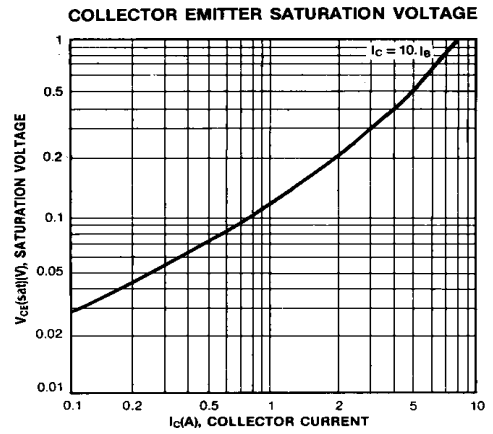
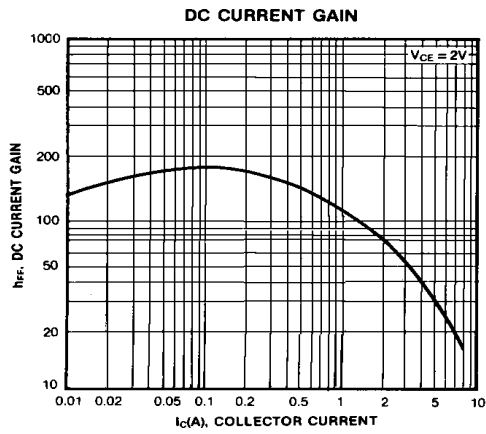
Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	: BD533	45
		: BD535	60
		: BD537	80
$V_{CES}$	Collector-Emitter Voltage	: BD533	45
		: BD535	60
		: BD537	80
$V_{CEO}$	Collector-Emitter Voltage	: BD533	45
		: BD535	60
		: BD537	80
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current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

### Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

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

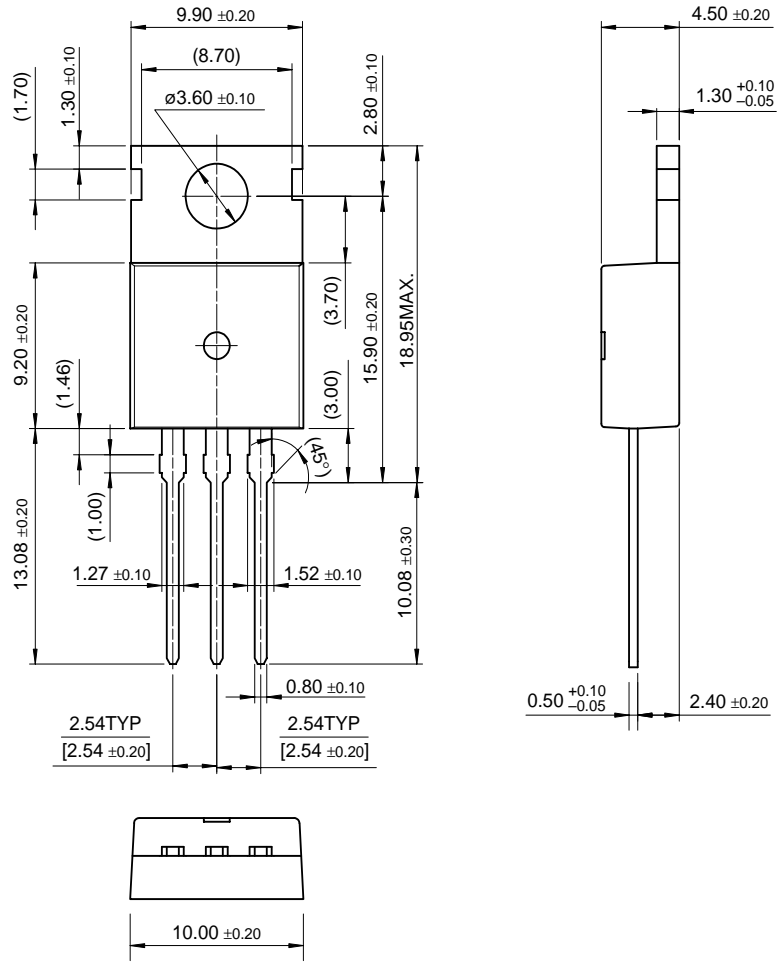
\* Pulse Test: PW = 300 $\mu\text{s}$ , duty Cycle = 1.5% Pulsed

# Typical characteristics



# Package Dimensions

## TO-220



BD533/535/537

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FACT™	QFET™	
FACT Quiet Series™	QS™	
FAST®	Quiet Series™	
FASTr™	SuperSOT™-3	
GTO™	SuperSOT™-6	
HiSeC™	SuperSOT™-8	

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