

## BD534/536/538

### Medium Power Linear and Switching Applications

- Low Saturation Voltage
- Complement to BD533, BD535 and BD537 respectively



TO-220  
1.Base 2.Collector 3.Emitter

### PNP Epitaxial Silicon Transistor

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

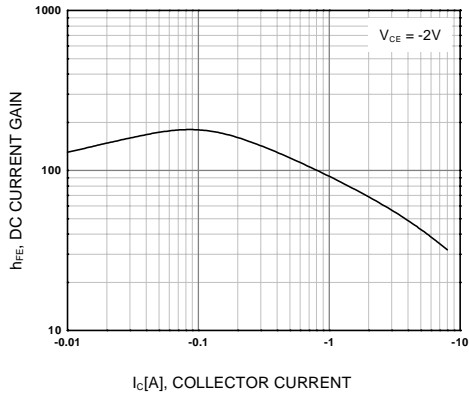
Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage : BD534	- 45	V
	: BD536	- 60	V
	: BD538	- 80	V
$V_{CEO}$	Collector-Emitter Voltage : BD534	- 45	V
	: BD536	- 60	V
	: BD538	- 80	V
$V_{EBO}$	Emitter-Base Voltage	- 5	V
$I_C$	Collector Current (DC)	- 8	A
$I_B$	Base Current	- 1	A
$P_C$	Collector 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

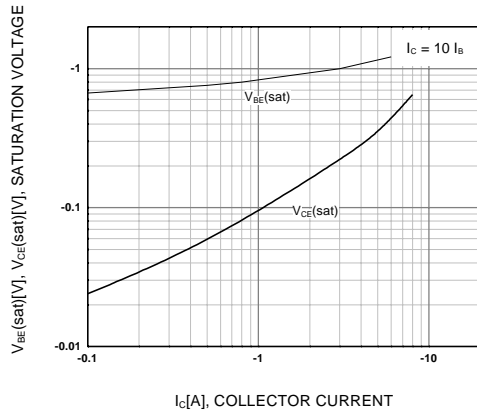
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units	
$I_{CBO}$	Collector Cut-off Current : BD534	$V_{CB} = - 45\text{V}, I_E = 0$			- 100	$\mu\text{A}$	
	: BD536	$V_{CB} = - 60\text{V}, I_E = 0$			- 100	$\mu\text{A}$	
	: BD538	$V_{CB} = - 80\text{V}, I_E = 0$			- 100	$\mu\text{A}$	
$I_{CES}$	Collector Cut-off Current : BD534	$V_{CE} = - 45\text{V}, V_{BE} = 0$			- 100	$\mu\text{A}$	
	: BD536	$V_{CE} = - 60\text{V}, V_{BE} = 0$			- 100	$\mu\text{A}$	
	: BD538	$V_{CE} = - 80\text{V}, V_{BE} = 0$			- 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 : ALL DEVICE	: BD534/536	$V_{CE} = - 2\text{V}, I_C = - 500\text{mA}$	40			
		: BD538	$V_{CE} = - 5\text{V}, I_C = - 10\text{mA}$	20			
		: BD534/536	$V_{CE} = - 2\text{V}, I_C = - 2\text{A}$	15			
		: BD538		25			
$h_{FE}$	$h_{FE}$ Groups	J : ALL DEVICE	$V_{CE} = - 2\text{V}, I_C = - 2\text{A}$	30		75	
			$V_{CE} = - 2\text{V}, I_C = - 3\text{A}$	15			
		K : ALL DEVICE	$V_{CE} = - 2\text{V}, I_C = - 2\text{A}$	40		100	
			$V_{CE} = - 2\text{V}, I_C = - 3\text{A}$	20			
$V_{CE}(\text{sat})$	* 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	
$V_{BE}(\text{on})$	* 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

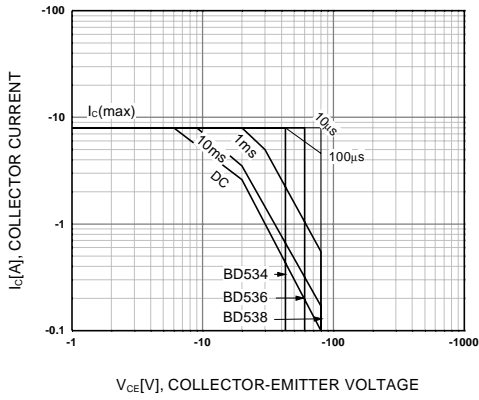
# Typical Characteristics



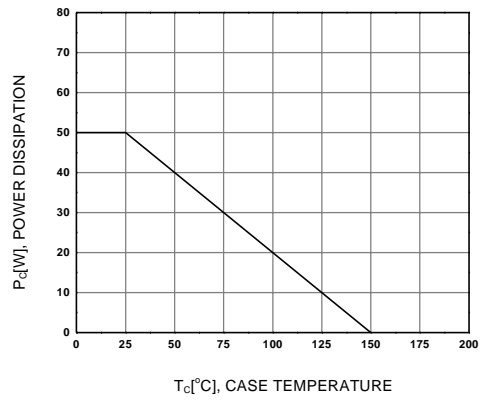
**Figure 1. DC current Gain**



**Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage**



**Figure 3. Safe Operating Area**



**Figure 4. Power Derating**

# Package Dimensions

## TO-220

BD534/536/538



Dimensions in Millimeters

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