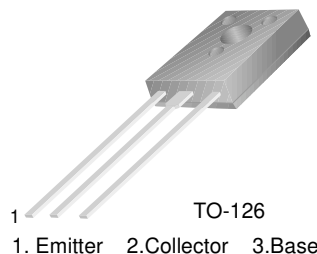


## BD234/236/238

### Medium Power Linear and Switching Applications

- Complement to BD 233/235/237 respectively



### 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		
	: BD234	- 45	V
	: BD236	- 60	V
	: BD238	- 100	V
$V_{CEO}$	Collector-Emitter Voltage		
	: BD234	- 45	V
	: BD236	- 60	V
	: BD238	- 80	V
$V_{CER}$	Collector-Emitter Voltage		
	: BD234	- 45	V
	: BD236	- 60	V
	: BD238	- 100	V
$V_{EBO}$	Emitter-Base Voltage	- 5	V
$I_C$	Collector Current (DC)	- 2	A
$I_{CP}$	*Collector Current (Pulse)	- 6	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	25	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
$V_{CEO(sus)}$	* Collector-Emitter Sustaining Voltage					
	: BD234	$I_C = - 100\text{mA}, I_B = 0$	- 45			V
	: BD236		- 60			V
	: BD238		- 80			V
$I_{CBO}$	Collector Cut-off Current					
	: BD234	$V_{CB} = - 45\text{V}, I_E = 0$			- 100	$\mu\text{A}$
	: BD236	$V_{CB} = - 60\text{V}, I_E = 0$			- 100	$\mu\text{A}$
	: BD238	$V_{CB} = - 100\text{V}, I_E = 0$			- 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	$V_{CE} = - 2\text{V}, I_C = - 150\text{mA}$ $V_{CE} = - 2\text{V}, I_C = - 1\text{A}$	40 25			
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = - 1\text{A}, I_B = - 0.1\text{A}$			- 0.6	V
$V_{BE(on)}$	* Base-Emitter ON Voltage	$V_{CE} = - 2\text{V}, I_C = - 1\text{A}$			- 1.3	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = - 10\text{V}, I_C = - 250\text{mA}$	3			MHz

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

# Typical Characteristics

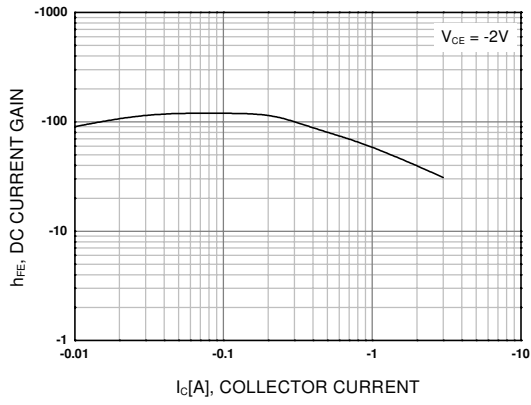


Figure 1. DC current Gain

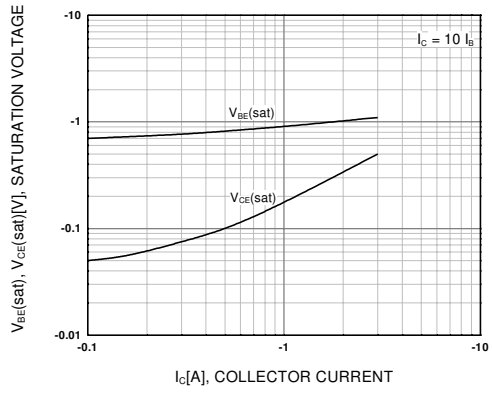


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

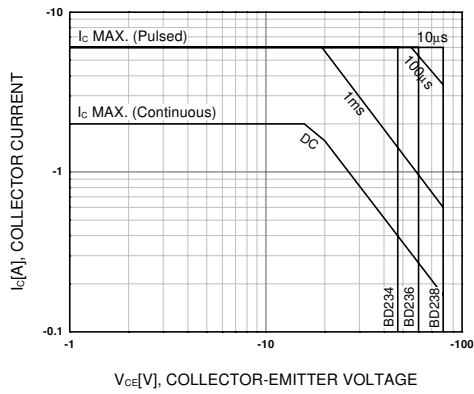


Figure 3. Safe Operating Area

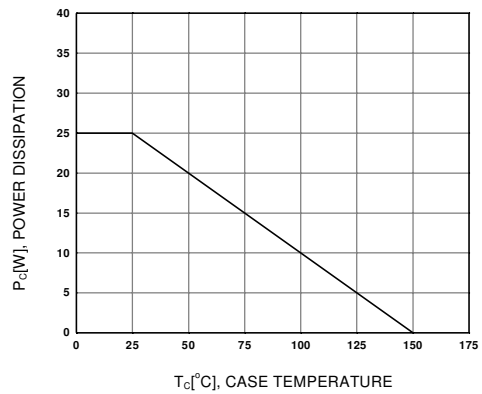
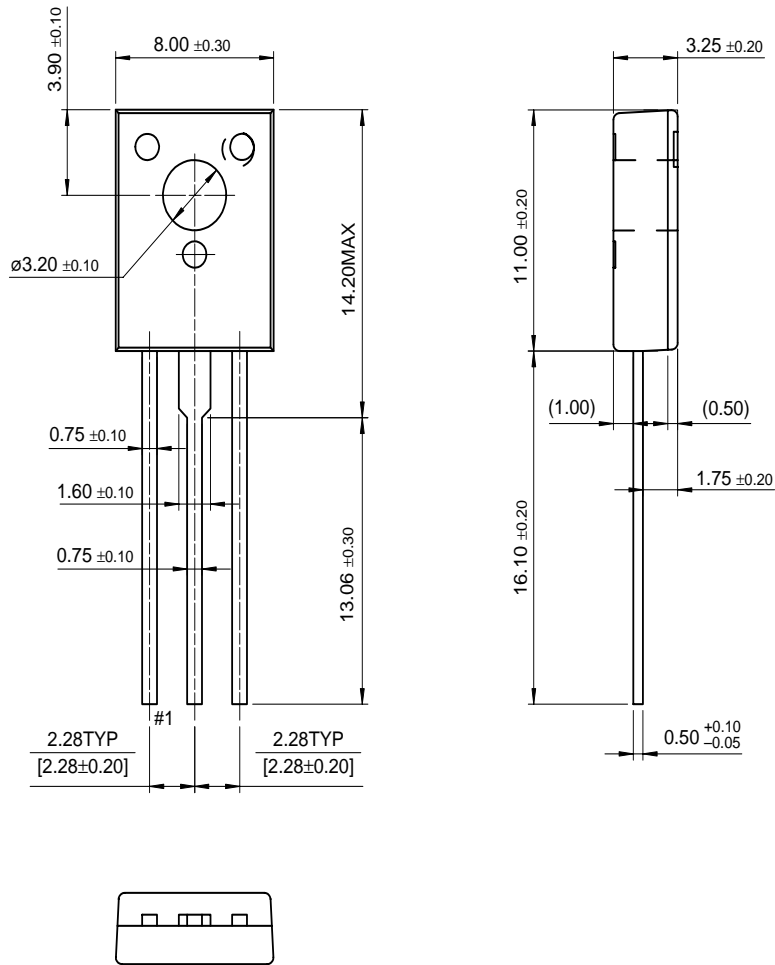


Figure 4. Power Derating

# Package Dimensions

## TO-126

BD234/236/238



Dimensions in Millimeters

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E <sup>2</sup> CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
FACT Quiet Series™	QS™	
FAST®	Quiet Series™	
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