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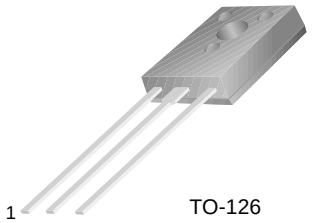
SEMICONDUCTOR TM

BD234/236/238

Medium Power Linear and Switching Applications

- Complement to BD 233/235/237 respectively



TO-126

1. Emitter 2.Collector 3.Base

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°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°C)	25	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
V_{CEO}(sus)	* Collector-Emitter Sustaining Voltage					
	: BD234	I_C = - 100mA, I_B = 0	- 45			V
	: BD236		- 60			V
	: BD238		- 80			V
I_{CBO}	Collector Cut-off Current					
	: BD234	V_{CB} = - 45V, I_E = 0			- 100	μA
	: BD236	V_{CB} = - 60V, I_E = 0			- 100	μA
	: BD238	V_{CB} = - 100V, I_E = 0			- 100	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = - 5V, I_C = 0			- 1	mA
h_{FE}	* DC Current Gain	V_{CE} = - 2V, I_C = - 150mA	40			
		V_{CE} = - 2V, I_C = - 1A	25			
V_{CE}(sat)	* Collector-Emitter Saturation Voltage	I_C = - 1A , I_B = - 0.1A			- 0.6	V
V_{BE}(on)	* Base-Emitter ON Voltage	V_{CE} = - 2V, I_C = - 1A			- 1.3	V
f_T	Current Gain Bandwidth Product	V_{CE} = - 10V, I_C = -250mA	3			MHz

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

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Typical Characteristics

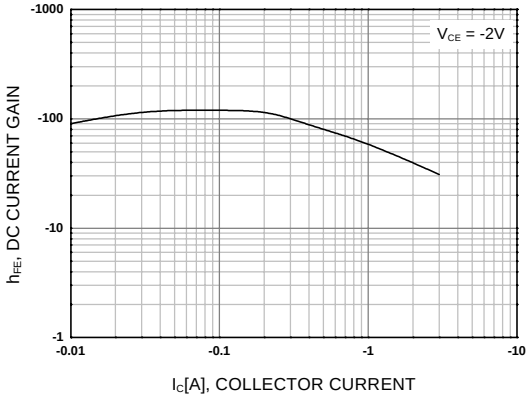

Figure 1. DC current Gain

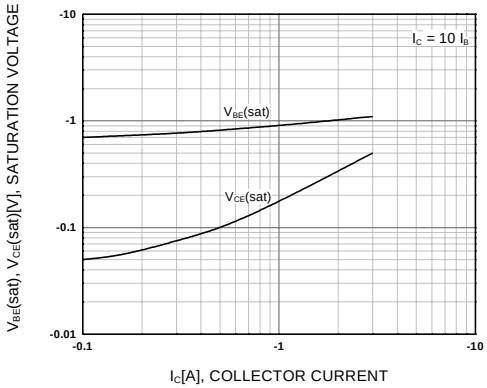

Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

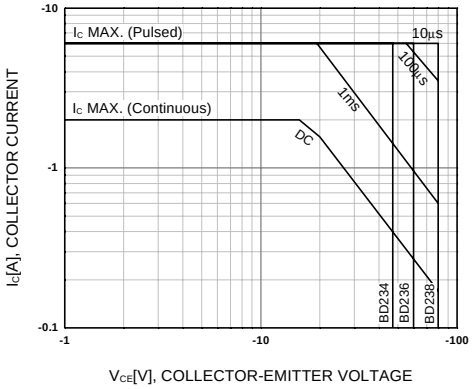

Figure 3. Safe Operating Area

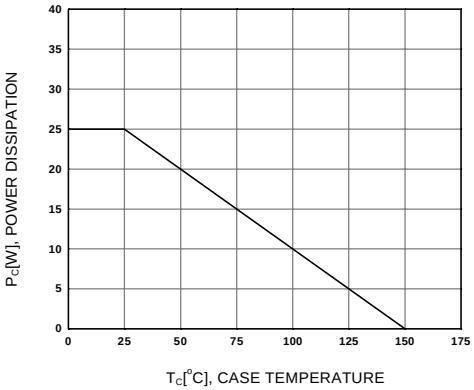

Figure 4. Power Derating

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Package Demensions

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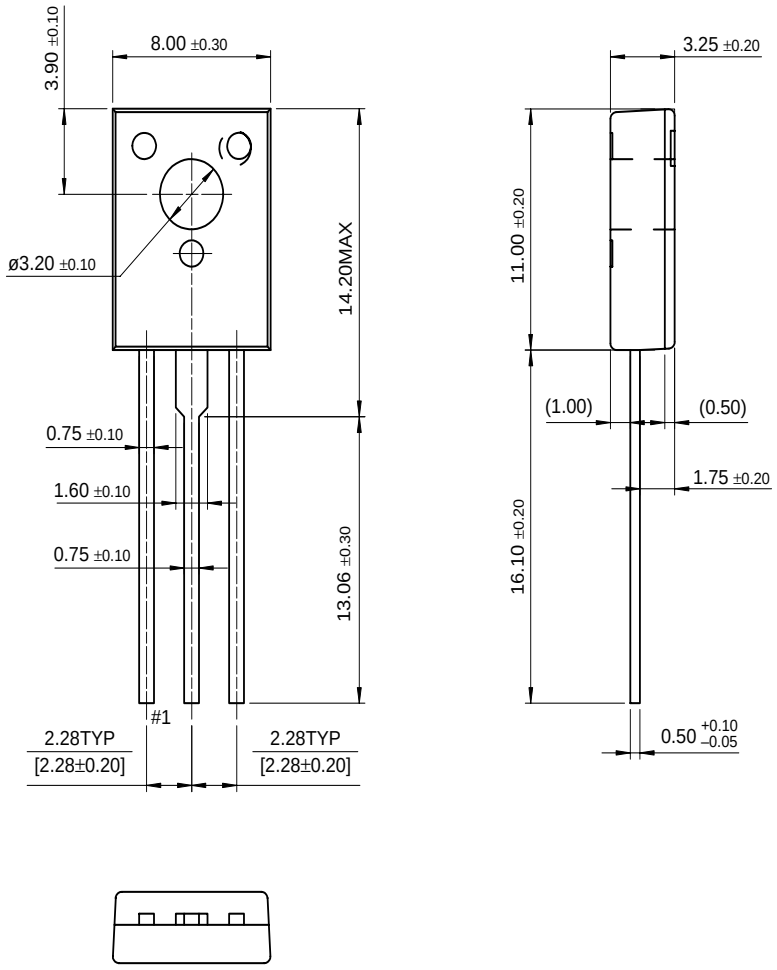

Dimensions in Millimeters

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