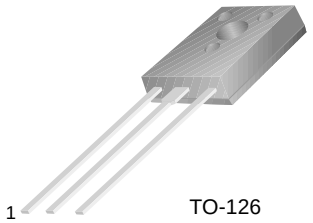
FAIRCHILD SEMICONDUCTOR™

BD136/138/140

Medium Power Linear and Switching Applications

- Complement to BD135, BD137 and BD139 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	: BD136	- 45	V
		: BD138	- 60	V
		: BD140	- 80	V
V_{CEO}	Collector-Emitter Voltage	: BD136	- 45	V
		: BD138	- 60	V
		: BD140	- 80	V
V_{EBO}	Emitter-Base Voltage		- 5	V
I_C	Collector Current (DC)		- 1.5	A
I_{CP}	Collector Current (Pulse)		- 3.0	A
I_B	Base Current		- 0.5	A
P_C	Collector Dissipation (T_C=25°C)		12.5	W
P_C	Collector Dissipation (T_a=25°C)		1.25	W
T_J	Junction Temperature		150	°C
T_{STG}	Storage Temperature		- 55 ~ 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					
	: BD136	I_C = - 30mA, I_B = 0	- 45			V
	: BD138		- 60			V
	: BD140		- 80			V
I_{CBO}	Collector Cut-off Current	V_{CB} = - 30V, I_E = 0			- 0.1	µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = - 5V, I_C = 0			- 10	µA
h_{FE1}	* DC Current Gain	V_{CE} = - 2V, I_C = - 5mA	25			
h_{FE2}		V_{CE} = - 2V, I_C = - 0.5A	25			
h_{FE3}		V_{CE} = - 2V, I_C = - 150mA	40		250	
V_{CE}(sat)	* Collector-Emitter Saturation Voltage	I_C = - 500mA, I_B = - 50mA			- 0.5	V
V_{BE}(on)	* Base-Emitter ON Voltage	V_{CE} = - 2V, I_C = - 0.5A			- 1	V

* Pulse Test: PW=350µs, duty Cycle=2% Pulsed

h_{FE} Classificntion

Classification	6	10	16
h_{FE3}	40 ~ 100	63 ~ 160	100 ~ 250

Typical Characteristics

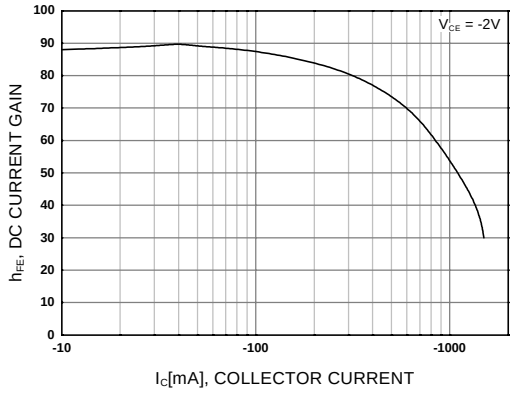


Figure 1. DC current Gain

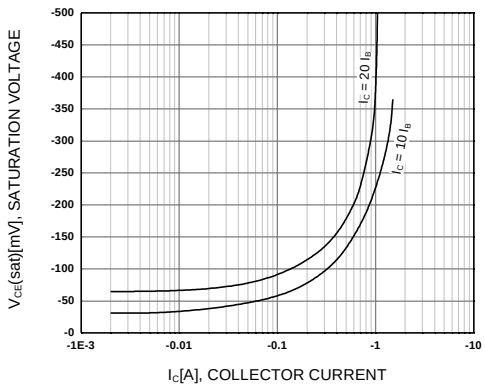


Figure 2. Collector-Emitter Saturation Voltage

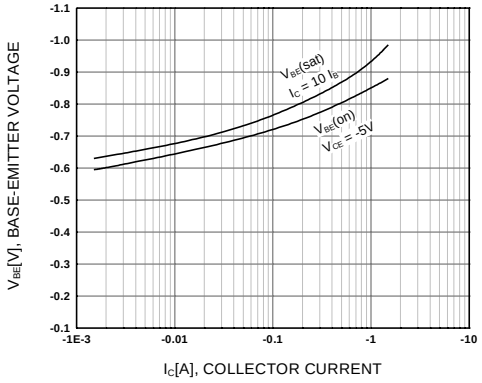


Figure 3. Base-Emitter Voltage

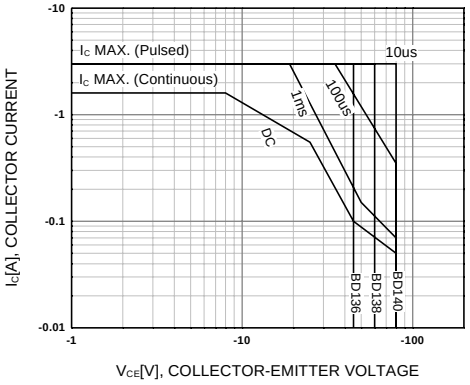


Figure 4. Safe Operating Area

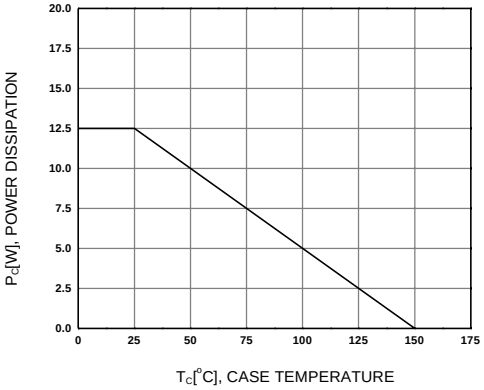


Figure 5. Power Derating

Package Demensions

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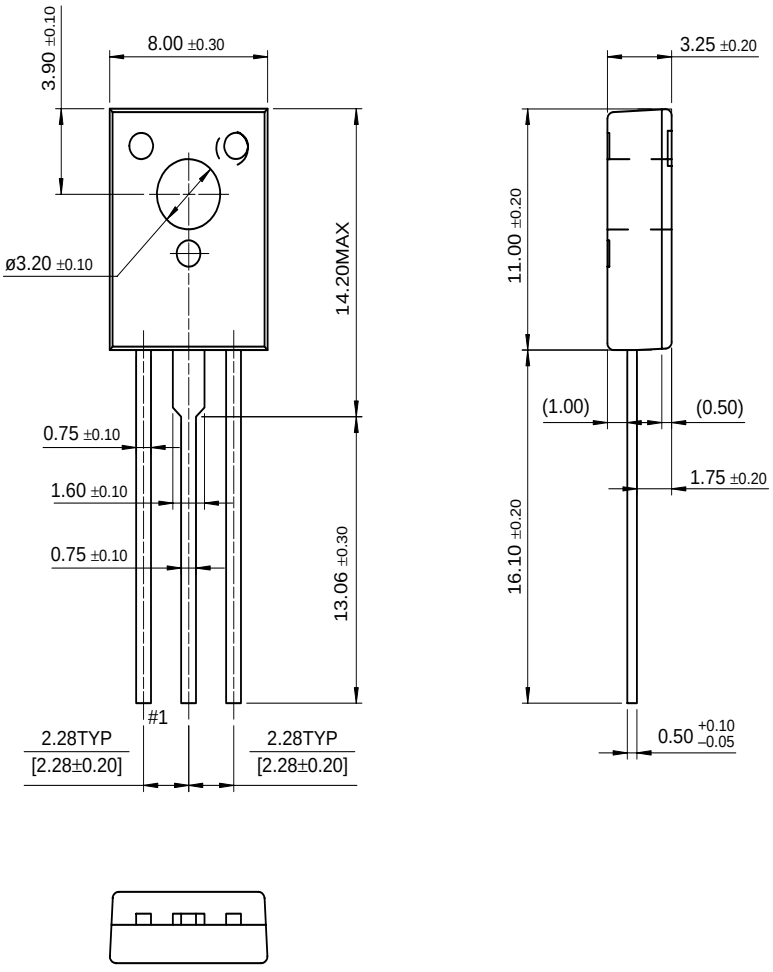

Dimensions in Millimeters

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