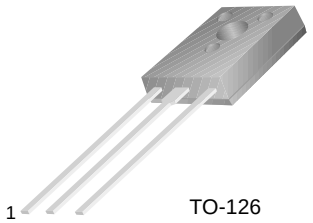
FAIRCHILD SEMICONDUCTOR™

BD376/378/380

Medium Power Linear and Switching Applications

- Complement to BD375, BD377 and BD379 respectively



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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 : BD376	- 50	V
	: BD378	- 75	V
	: BD380	- 100	V
V_{CEO}	Collector-Emitter Voltage : BD376	- 45	V
	: BD378	- 60	V
	: BD380	- 80	V
V_{EBO}	Emitter-Base Voltage	- 5	V
I_C	Collector Current (DC)	- 2	A
I_{CP}	*Collector Current (Pulse)	- 3	A
I_B	Base Current	- 1	A
P_C	Collector Dissipation (T_C=25°C)	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					
	: BD376	I_C = - 100mA, I_B = 0	- 45			V
	: BD378		- 60			V
	: BD380		- 80			V
BV_{CBO}	Collector-Base : BD376	I_C = - 100μA, I_E = 0	- 50			V
	Breakdown Voltage : BD378		- 75			V
	: BD380		- 100			V
I_{CBO}	Collector Cut-off Current : BD376	V_{CB} = - 45V, I_E = 0			- 2	μA
	: BD378	V_{CB} = - 60V, I_E = 0			- 2	μA
	: BD380	V_{CB} = - 80V, I_E = 0			- 2	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = - 5V, I_C = 0			- 100	μA
h_{FE1}	*DC Current Gain	V_{CE} = - 2V, I_C = - 0.15A	40		375	
h_{FE2}		V_{CE} = - 2V, I_C = - 1A	20			
V_{CE}(sat)	*Collector-Emitter Saturation Voltage	I_C = - 1A, I_B = - 0.1A			- 1	V
V_{BE}(on)	*Base-Emitter ON Voltage	V_{CE} = - 2V, I_C = -1A			- 1.5	V
t_{ON}	Turn ON Time	V_{CC} = - 30V, I_C = - 0.5A		50		ns
t_{OFF}	Turn OFF Time	I_{B1} = - I_{B2} = - 0.05A, R_L = 60Ω		500		ns

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

h_{FE} Classificntion

Classification	6	10	16	25
h_{FE1}	40 ~ 100	63 ~ 160	100 ~ 250	150 ~ 375

Typical Characteristics

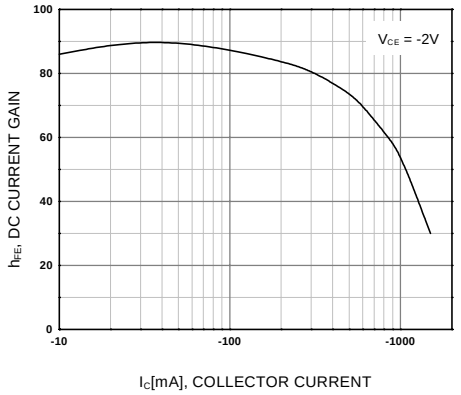


Figure 1. DC current Gain

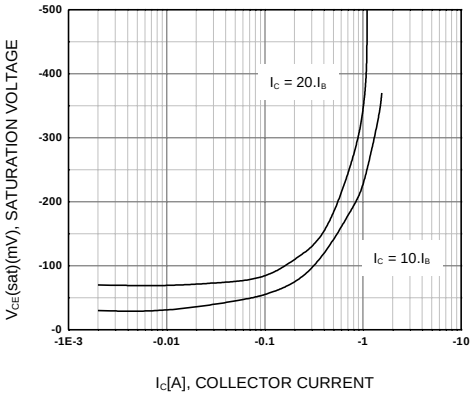


Figure 2. Collector-Emitter Saturation Voltage

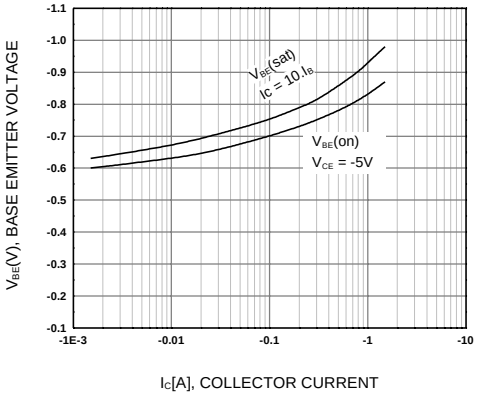


Figure 3. Base-Emitter Voltage

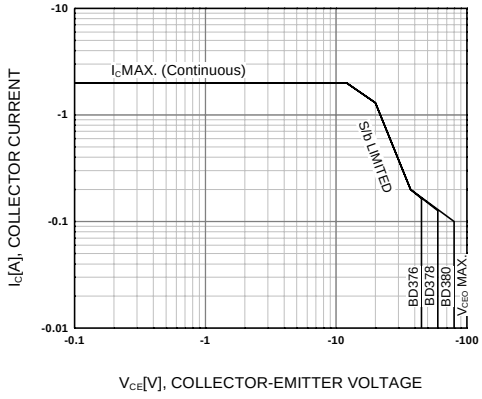


Figure 4. Safe Operating Area

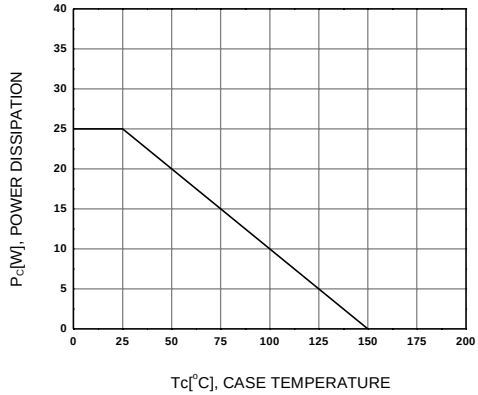
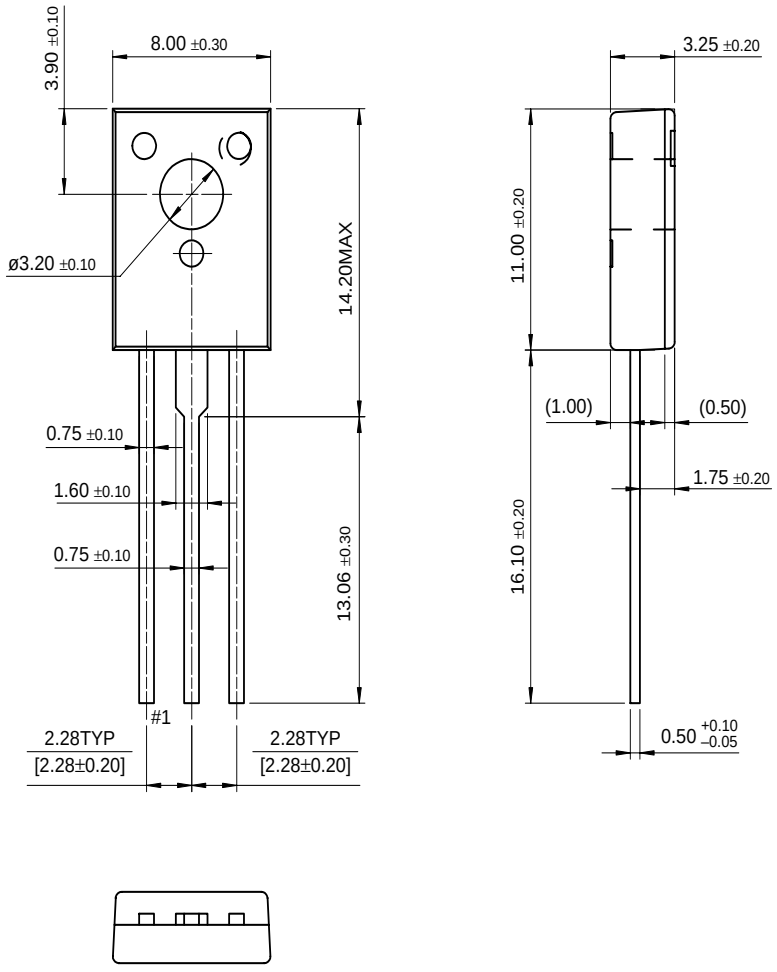


Figure 5. Power Derating

Package Demensions

TO-126



Dimensions in Millimeters

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