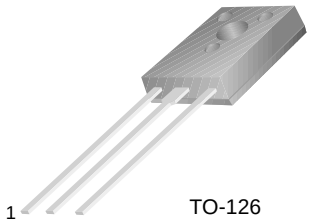
FAIRCHILD SEMICONDUCTOR™

BD375/377/379

Medium Power Linear and Switching Applications

- Complement to BD376, BD378 and BD380 respectively



TO-126

1. Emitter 2.Collector 3.Base

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage : BD375	50	V
	: BD377	75	V
	: BD379	100	V
V_{CEO}	Collector-Emitter Voltage : BD375	45	V
	: BD377	60	V
	: BD379	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					
	: BD375	I_C = 100mA, I_B = 0	45			V
	: BD377		60			V
	: BD379		80			V
BV_{CBO}	Collector-Base : BD375	I_C = 100μA, I_E = 0	50			V
	Breakdown Voltage : BD377		75			V
	: BD379		100			V
I_{CBO}	Collector Cut-off Current : BD375	V_{CB} = 45V, I_E = 0			2	μA
	: BD377	V_{CB} = 60V, I_E = 0			2	μA
	: BD379	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} Classification

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

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Typical Characteristics

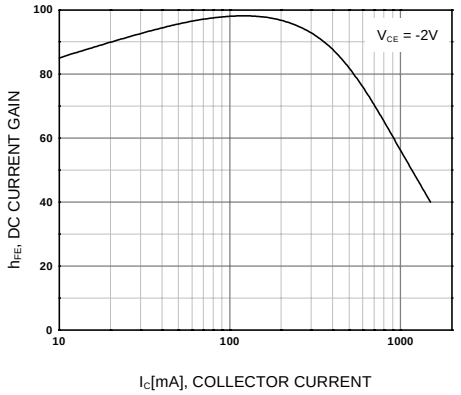


Figure 1. DC current Gain

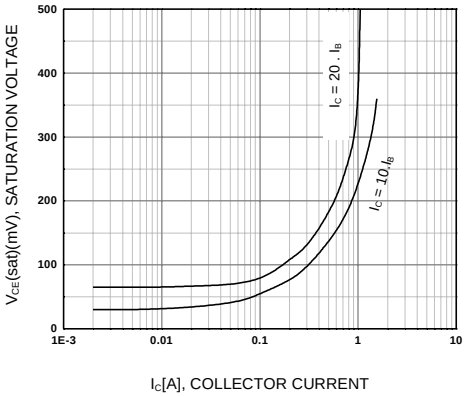


Figure 2. Collector-Emitter Saturation Voltage

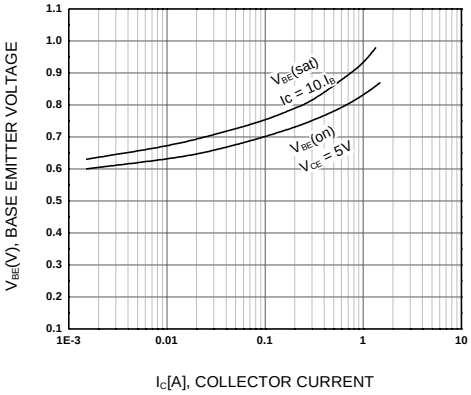


Figure 3. Base-Emitter Voltage

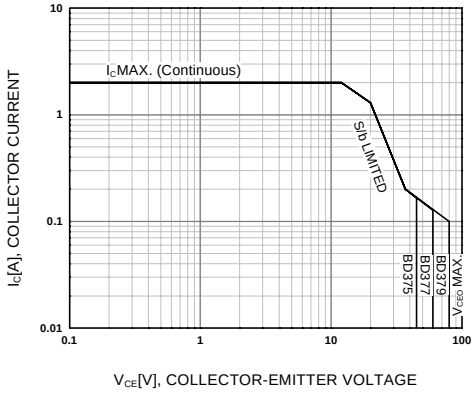


Figure 4. Safe Operating Area

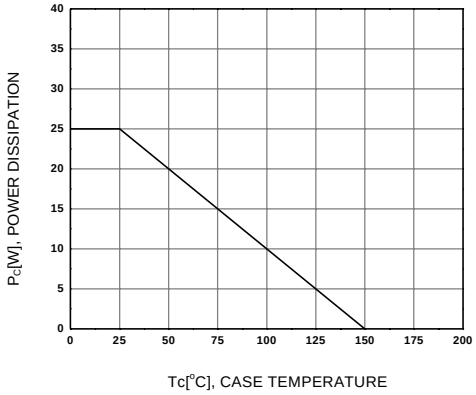
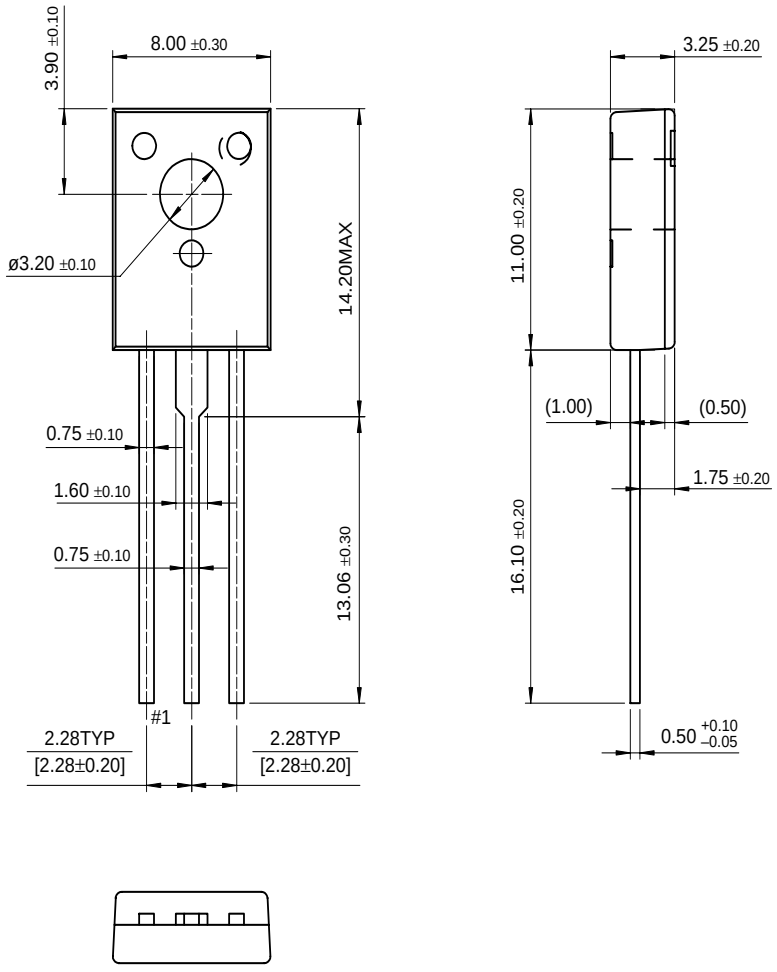


Figure 5. Power Derating

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Package Demensions

TO-126



Dimensions in Millimeters

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