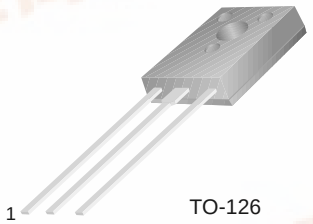
FAIRCHILD SEMICONDUCTOR®

BD233/235/237

Medium Power Linear and Switching Applications

- Complement to BD 234/236/238 respectively



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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	: BD233	45	V
		: BD235	60	V
		: BD237	100	V
V_{CEO}	Collector-Emitter Voltage	: BD233	45	V
		: BD235	60	V
		: BD237	80	V
V_{CER}	Collector-Emitter Voltage	: BD233	45	V
		: BD235	60	V
		: BD237	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					
	: BD233	I_C = 100mA, I_B = 0	45			V
	: BD235		60			V
	: BD237		80			V
I_{CBO}	Collector Cut-off Current					
	: BD233	V_{CB} = 45V, I_E = 0			100	µA
	: BD235	V_{CB} = 60V, I_E = 0			100	µA
	: BD237	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

Typical Characteristics

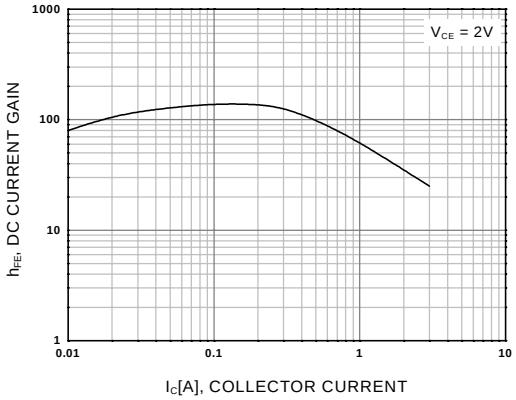

Figure 1. DC current Gain

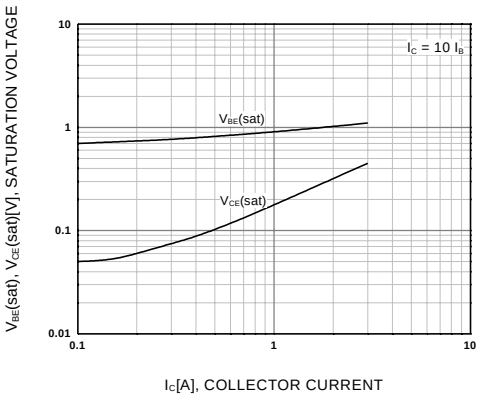

Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

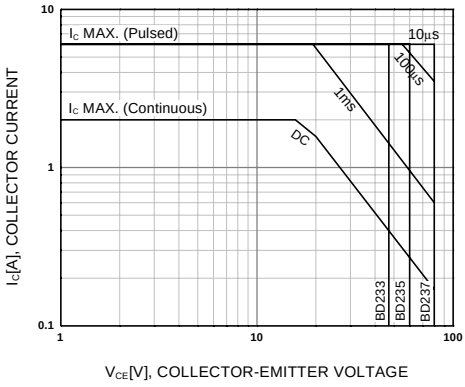

Figure 3. Safe Operating Area

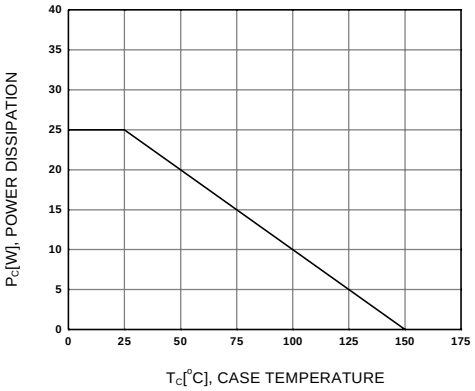

Figure 4. Power Derating

Package Demensions

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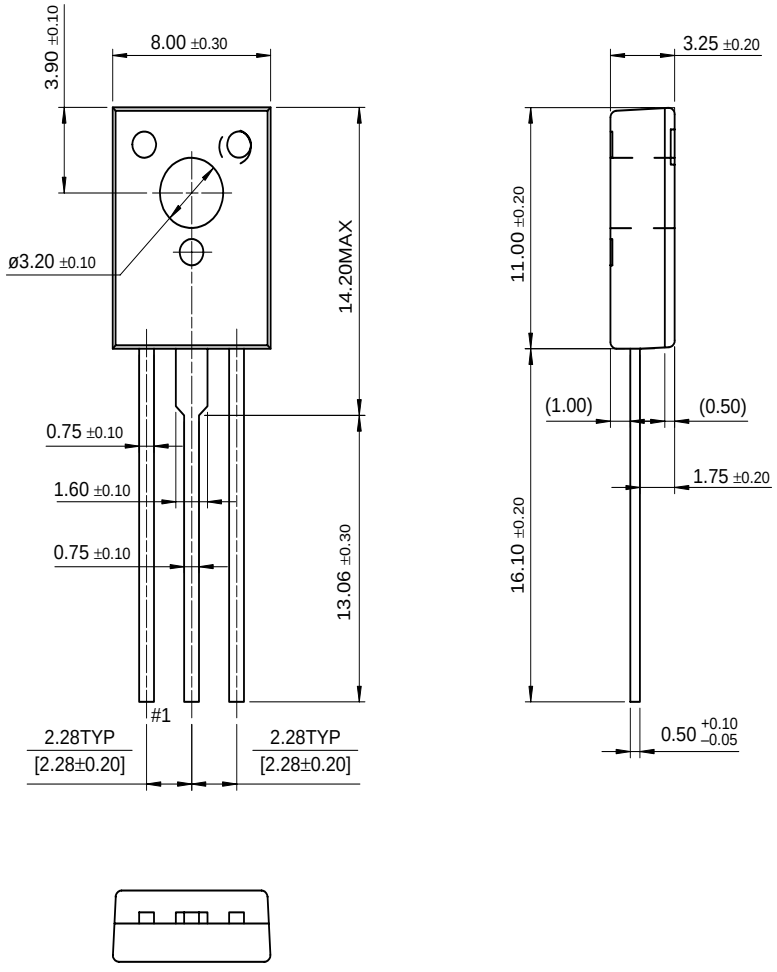

Dimensions in Millimeters

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E^2CMOS™	LittleFET™	QT Optoelectronics™	TinyLogic™
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