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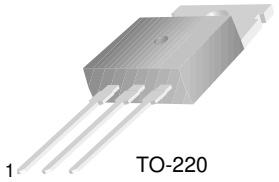
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FAIRCHILD
SEMICONDUCTOR™

BD239/A/B/C

Medium Power Linear and Switching Applications

- Complement to BD240/A/B/C respectively



TO-220

NPN Epitaxial Silicon Transistor

1.Base 2.Collector 3.Emitter

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage		
	: BD239	45	V
	: BD239A	60	V
	: BD239B	80	V
	: BD239C	100	V
V_{CER}	Collector-Emitter Voltage		
	: BD239	55	V
	: BD239A	70	V
	: BD239B	90	V
	: BD239C	115	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	2	A
I_{CP}	*Collector Current (Pulse)	4	A
I_B	Base Current	0.6	A
P_C	Collector Dissipation (T_C=25°C)	30	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 65 ~ 150	°C

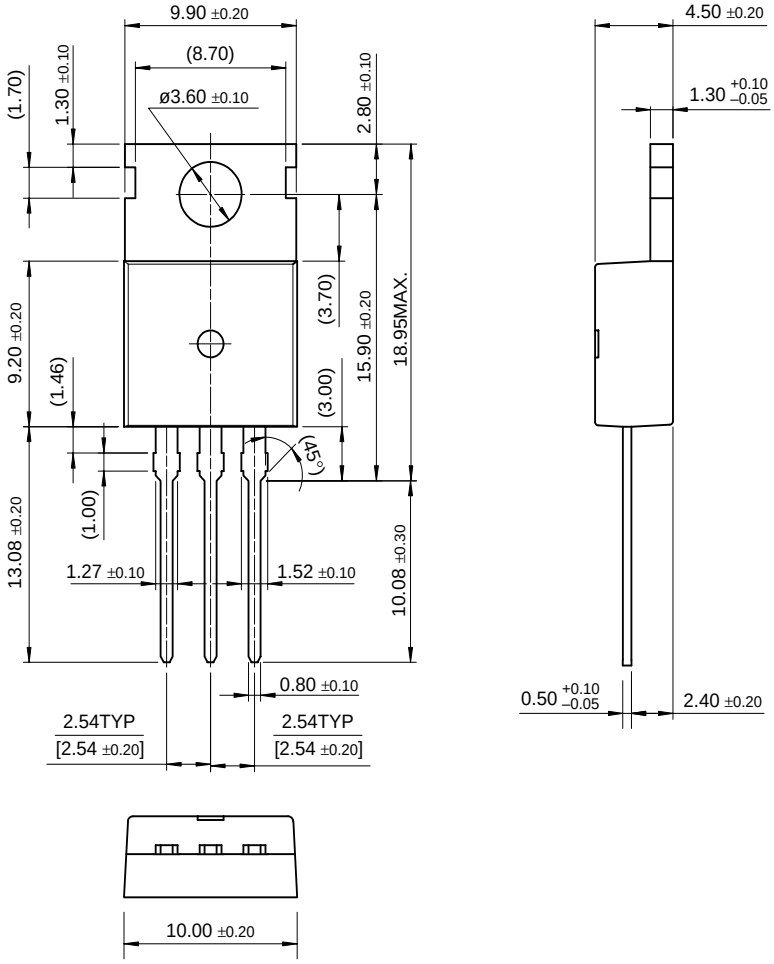
Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
V_{CEO}(sus)	*Collector-Emitter Sustaining Voltage					
	: BD239	I_C = 30mA, I_B = 0	45			V
	: BD239A		60			V
	: BD239B		80			V
	: BD239C		100			V
I_{CEO}	Collector Cut-off Current					
	: BD239/A	V_{CE} = 30V, I_B = 0			0.3	mA
	: BD239B/C	V_{CE} = 60V, I_B = 0			0.3	mA
I_{CES}	Collector Cut-off Current					
	: BD239	V_{CE} = 45V, V_{BE} = 0			0.2	mA
	: BD239A	V_{CE} = 60V, V_{BE} = 0			0.2	mA
	: BD239B	V_{CE} = 80V, V_{BE} = 0			0.2	mA
	: BD239C	V_{CE} = 100V, V_{BE} = 0			0.2	mA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 5V, I_C = 0			1	mA
h_{FE}	*DC Current Gain	V_{CE} = 4V, I_C = 0.2A	40			
		V_{CE} = 4V, I_C = 1A	15			
V_{CE}(sat)	*Collector-Emitter Saturation Voltage	I_C = 1A, I_B = 0.2A			0.7	V
V_{BE}(on)	*Base-Emitter ON Voltage	V_{CE} = 4V, I_C = 1A			1.3	V

* Pulse Test: PW=350μs, duty Cycle≤2.0% Pulsed

Package Demensions

TO-220



Dimensions in Millimeters

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