



TO-18 Plastic-Encapsulate Transistors

BD234/236/238 TRANSISTOR (PNP)

FEATURES

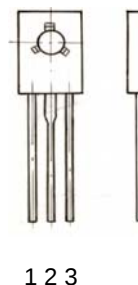
Power dissipation

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage BD234	-45	V
	BD236	-60	
	BD238	-100	
V_{CEO}	Collector-Emitter Voltage BD234	-45	V
	BD236	-60	
	BD238	-80	
V_{EBO}	Emitter-Base Voltage BD234		V
	BD236	-5	
	BD238		
I_C	Collector Current –Continuous	-2	A
P_C	Collector Power Dissipation	1.25	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

TO-18

1. EMITTER
2. COLLECTOR
3. BASE



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage BD234 BD236 BD238	$V_{(BR)CBO}$	$I_C=-1\text{mA}, I_E=0$	-45 -60 -100		V
Collector-emitter breakdown voltage BD234 BD236 BD238	$V_{(BR)CEO}$	$I_C=-100\text{mA}, I_B=0$	-45 -60 -80		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-1\text{mA}, I_C=0$	-5		V
Collector cut-off current BD234 BD236 BD238	I_{CBO}	$V_{CB}=-45\text{V}, I_E=0$ $V_{CB}=-60\text{V}, I_E=0$ $V_{CB}=-100\text{V}, I_E=0$		-100	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$		-1	mA
DC current gain	$h_{FE(1)}$	$V_{CE}=-2\text{V}, I_C=-150\text{mA}$	40		
	$h_{FE(2)}$	$V_{CE}=-2\text{V}, I_C=-1\text{A}$	25		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-1\text{A}, I_B=-100\text{mA}$		-0.6	V
Transition frequency	f_T	$V_{CE}=-10\text{V}, I_C=-250\text{mA}, f=10\text{MHz}$	3		MHz

Typical Characteristics

BD234,236,238

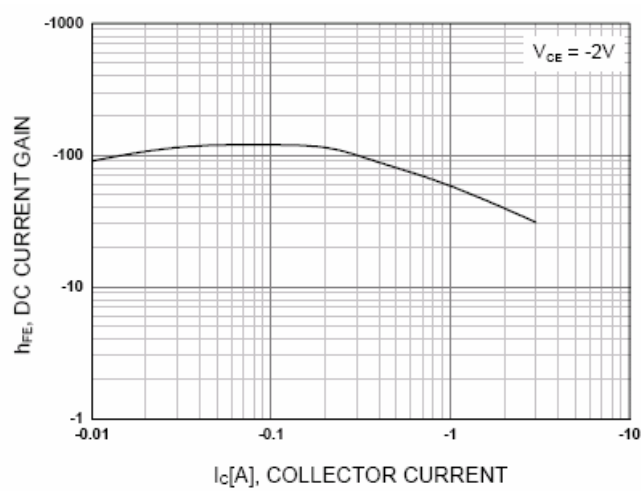


Figure 1. DC current Gain

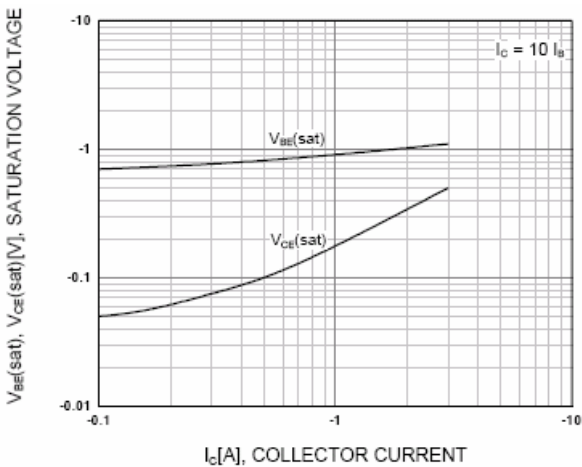


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

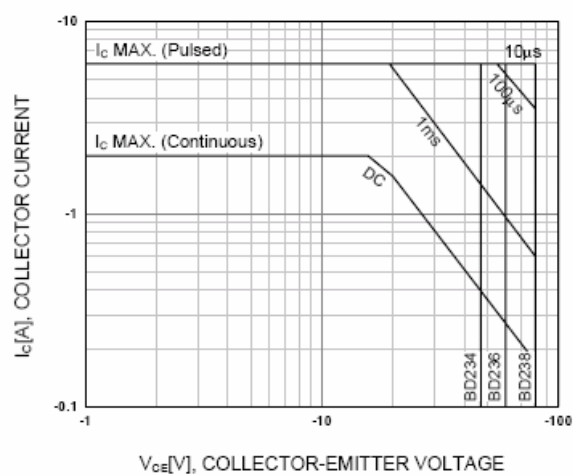


Figure 3. Safe Operating Area

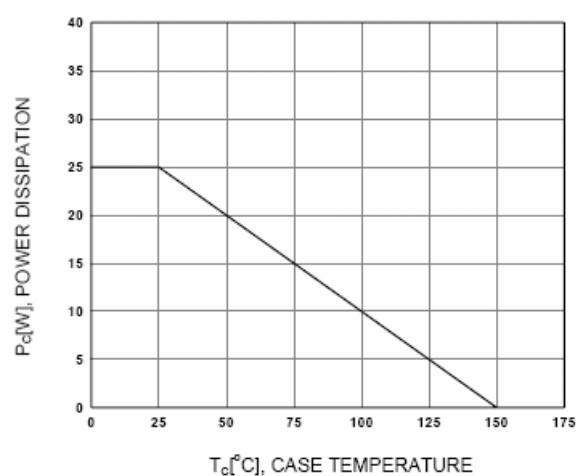


Figure 4. Power Derating