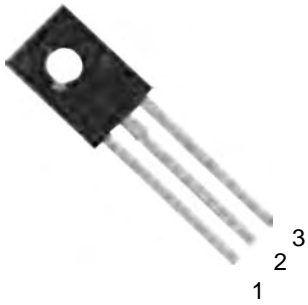


BD433/435/437(NPN)

TO-126 Transistor

TO-126



1. EMITTER
2. COLLECTOR
3. BASE

Features

✧ Amplifier and switching applications

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

Symbol	Parameter	Value	Units	
V_{CBO}	Collector-Base Voltage	BD433	22	V
		BD435	32	
		BD437	45	
V_{CEO}	Collector-Emitter Voltage	BD433	22	V
		BD435	32	
		BD437	45	
V_{EBO}	Emitter-Base Voltage	5	V	
I_C	Collector Current –Continuous	4	A	
P_C	Collector Power Dissipation	1.25	W	
T_J	Junction Temperature	150	$^{\circ}\text{C}$	
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$	

Dimensions in inches and (millimeters)

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Collector-base breakdown voltage	$V_{(BR)CBO}$	BD433	22			V	
		BD435	32				
		BD437	45				
Collector-emitter breakdown voltage	$V_{CE(SUS)}^{(1)}$	BD433	22			V	
		BD435	32				
		BD437	45				
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V	
Collector cut-off current	I_{CBO}	$V_{CB}=22\text{V}, I_E=0$	BD433			1	μA
		$V_{CB}=32\text{V}, I_E=0$	BD435				
		$V_{CB}=45\text{V}, I_E=0$	BD437				
Collector cut-off current	I_{CEO}	$V_{CE}=22\text{V}, I_E=0$	BD433			10	μA
		$V_{CE}=32\text{V}, I_E=0$	BD435				
		$V_{CE}=45\text{V}, I_E=0$	BD437				
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_E=0$			1	μA	
DC current gain	$h_{FE(1)}^{(1)}$	$V_{CE}=1\text{V}, I_C=500\text{mA}$	85				
	$h_{FE(2)}^{(1)}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	BD433/BD435	40			
			BD437	30			
$h_{FE(3)}^{(1)}$		$V_{CE}=1\text{V}, I_C=2\text{A}$	BD433/BD435	50			
			BD437	40			
Collector-emitter saturation voltage	$V_{CE(sat)}^{(1)}$	$I_C=2\text{A}, I_B=0.2\text{A}$	BD433/BD435		0.5	V	
			BD437		0.6		
Base-emitter voltage	$V_{BE}^{(1)}$	$V_{CE}=1\text{V}, I_C=2\text{A}$	BD433/BD435		1.1	V	
			BD437		1.2		
Transition frequency	f_T	$V_{CE}=1\text{V}, I_C=250\text{mA}$	3			MHZ	

⁽¹⁾Pulse test.

Typical Characteristics

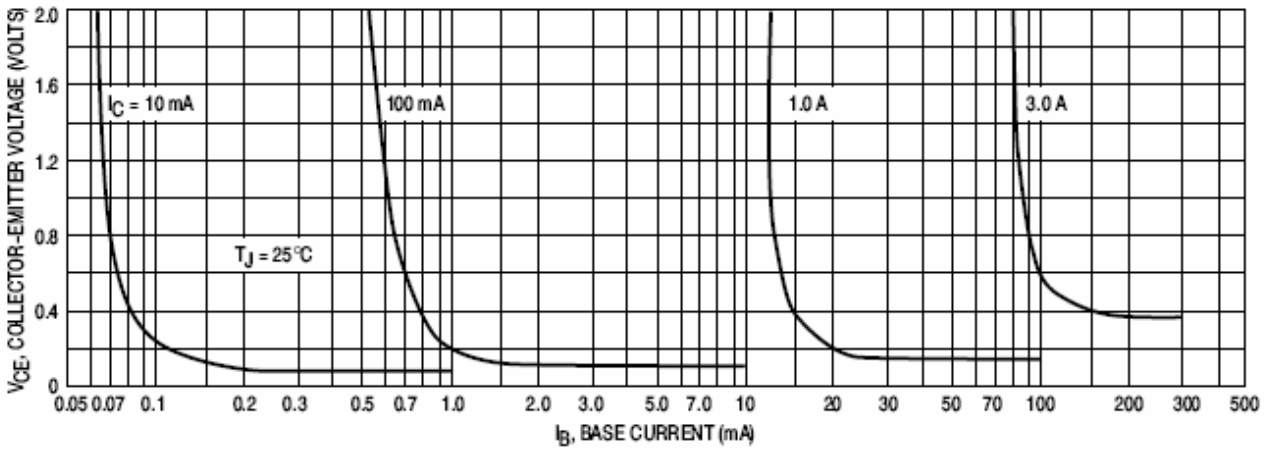


Figure 1. Collector Saturation Region

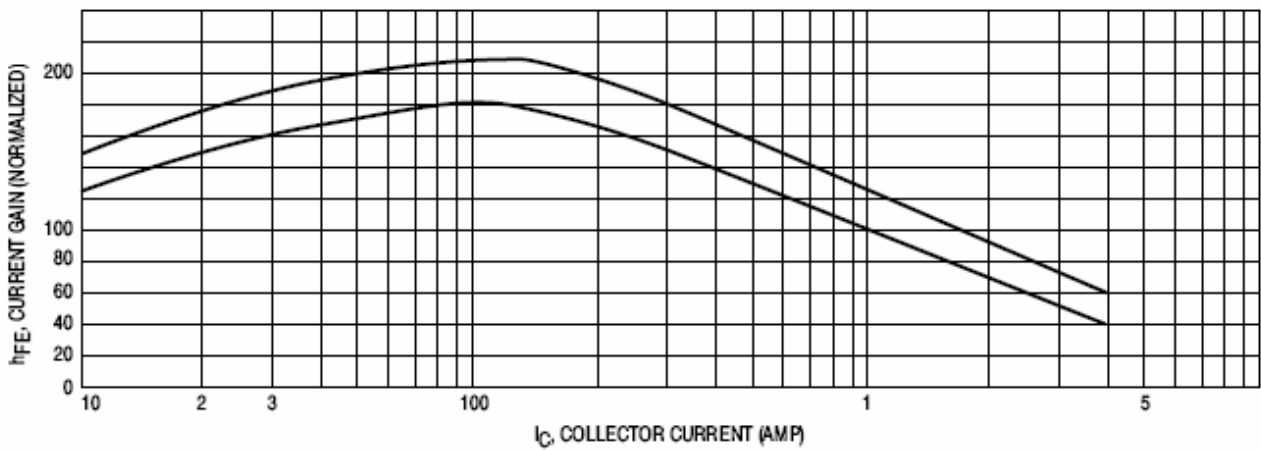


Figure 2. Current Gain

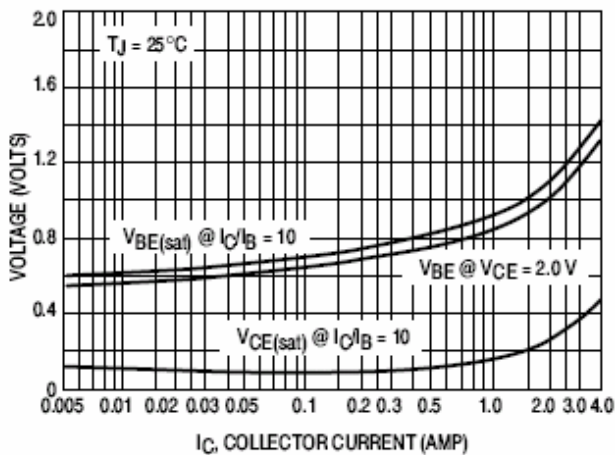


Figure 3. "On" Voltage

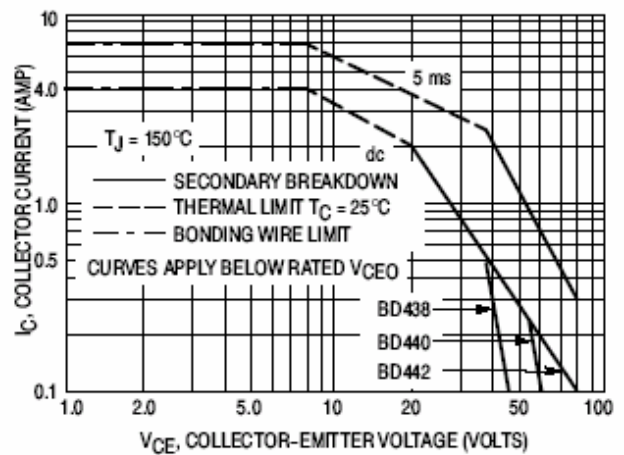


Figure 4. Active Region Safe Operating Area

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