

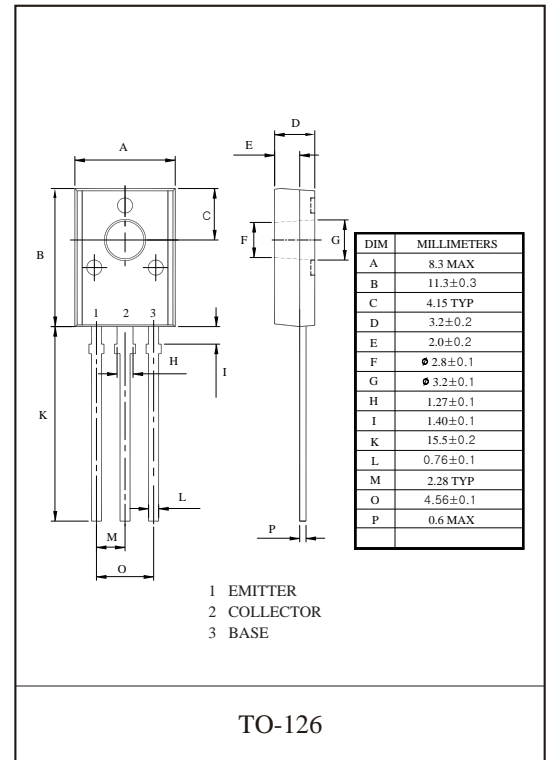
BD433/435/437 TRANSISTOR (NPN)

FEATURES

Amplifier and Switching Applications

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	BD433	22
		BD435	32
		BD437	45
V _{CEO}	Collector-Emitter Voltage	BD433	22
		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	°C
T _{stg}	Storage Temperature	-55-150	°C



ELECTRICAL CHARACTERISTICS (Ta=25°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 =100µA, I _C =0	5			V
Collector cut-off current	I _{CBO}	V _{CB} =22V, I _E =0	BD433		1	µA
		V _{CB} =32V, I _E =0	BD435			
		V _{CB} =45V, I _E =0	BD437			
Collector cut-off current	I _{CEO}	V _{CE} =22V, I _E =0	BD433		10	µA
		V _{CE} =32V, I _E =0	BD435			
		V _{CE} =45V, I _E =0	BD437			
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _E =0			1	µA
DC current gain	h _{FE(1)} ⁽¹⁾	V _{CE} =1V, I _C =500mA		85		
	h _{FE(2)} ⁽¹⁾	V _{CE} =5V, I _C =10mA	BD433/BD435	40		
	h _{FE(3)} ⁽¹⁾	V _{CE} =1V, I _C =2A	BD433/BD435	50		
Collector-emitter saturation voltage	V _{CE(sat)} ⁽¹⁾	I _C =2A, I _B =0.2A	BD433/BD435		0.5	V
			BD437		0.6	
Base-emitter voltage	V _{BE} ⁽¹⁾	V _{CE} =1V, I _C =2A	BD433/BD435		1.1	V
			BD437		1.2	
Transition frequency	f _T	V _{CE} =1V, I _C =250mA	3			MHz

⁽¹⁾Pulse test.

Typical Characteristics

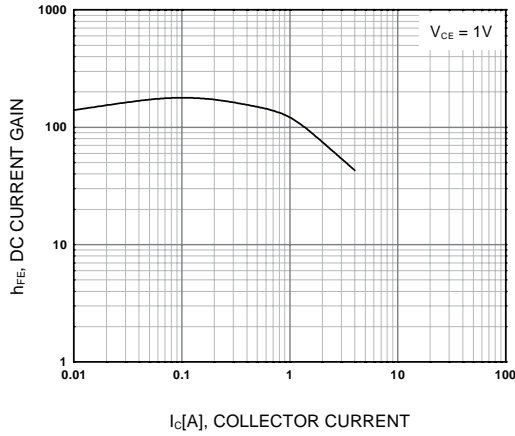


Figure 1. DC current Gain

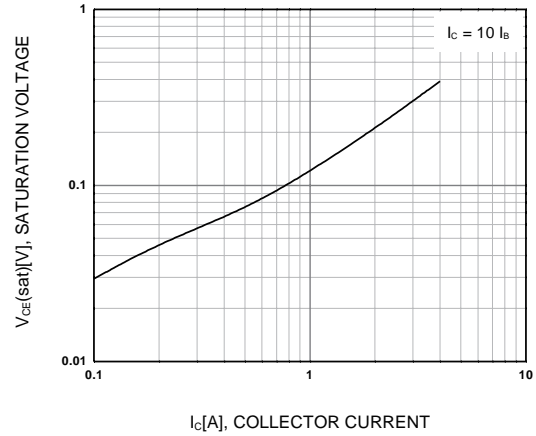


Figure 2. Collector-Emitter Saturation Voltage

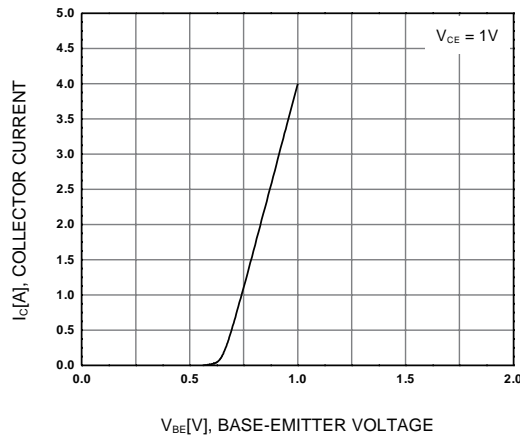


Figure 3. Base-Emitter On Voltage

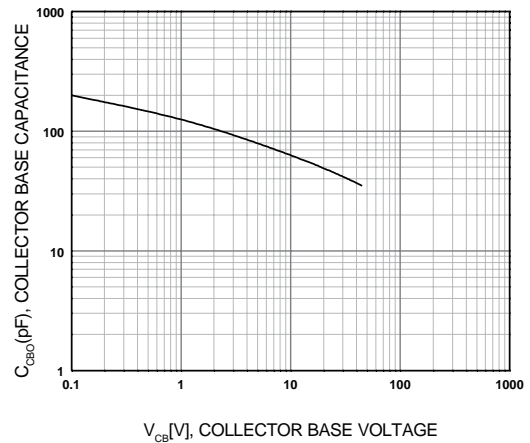


Figure 4. Collector-Base Capacitance

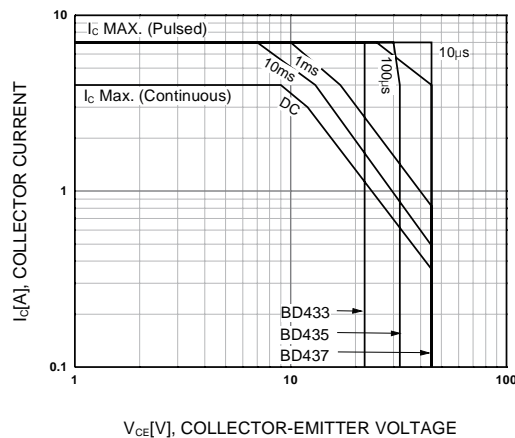


Figure 5. Safe Operating Area

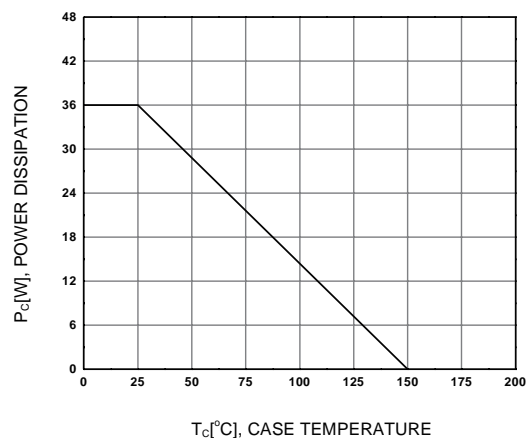


Figure 6. Power Derating