Elektronische Bauelemente

BD439/BD441

NPN Type

Plastic Encapsulate Transistors

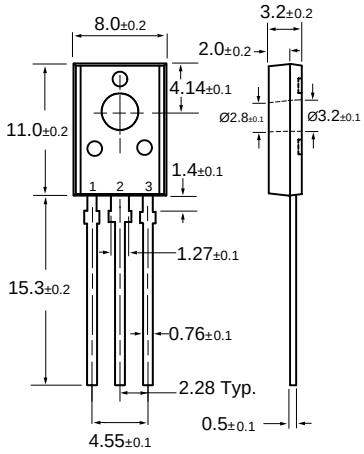
RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

Features

* Amplifier and switching applications

TO-126



1: Emitter
2: Collector
3: Base

Dimensions in Millimeters

MAXIMUM RATINGS* T_A=25℃ unless otherwise noted

Symbol	Paramete		Value	Units
V_{CBO}	Collector-Base Voltage	BD439	60	V
		BD441	80	
V_{CEO}	Collector-Emitter Voltage	BD439	60	V
		BD441	80	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current –Continuous		4	A
P_C	Collector Dissipation		1.25	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature		-55-150	℃

ELECTRICAL CHARACTERISTICS（Tamb=25℃ unless otherwise specified）

Parameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	Ic=100μA,I_E=0	BD439	60			V
			BD441	80			
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	Ic=100mA,I_B=0	BD439	60			V
			BD441	80			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0		5			V
Collector cut-off current	I_{CBO}	V_{CB}=60V,I_E=0	BD439			100	μA
		V_{CB}=80V,I_E=0	BD441				
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_E=0				1	mA
DC current gain	$h_{FE(1)}$	V_{CE}=1V,I_C=500mA		40		475	
	$h_{FE(2)}$	V_{CE}=5V,I_C=10mA	BD439	20			
			BD441	15			
	$h_{FE(3)}$	V_{CE}=1V,I_C=2A	BD439	25			
			BD441	15			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=3A,I_B=0.3A				0.8	V
Base-emitter voltage	V_{BE}	V_{CE}=1V,I_C=2A				1.1	V
Transition frequency	f_T	V_{CE}=1V,I_C=250mA		3			MHz

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Typical Characteristics BD439，441

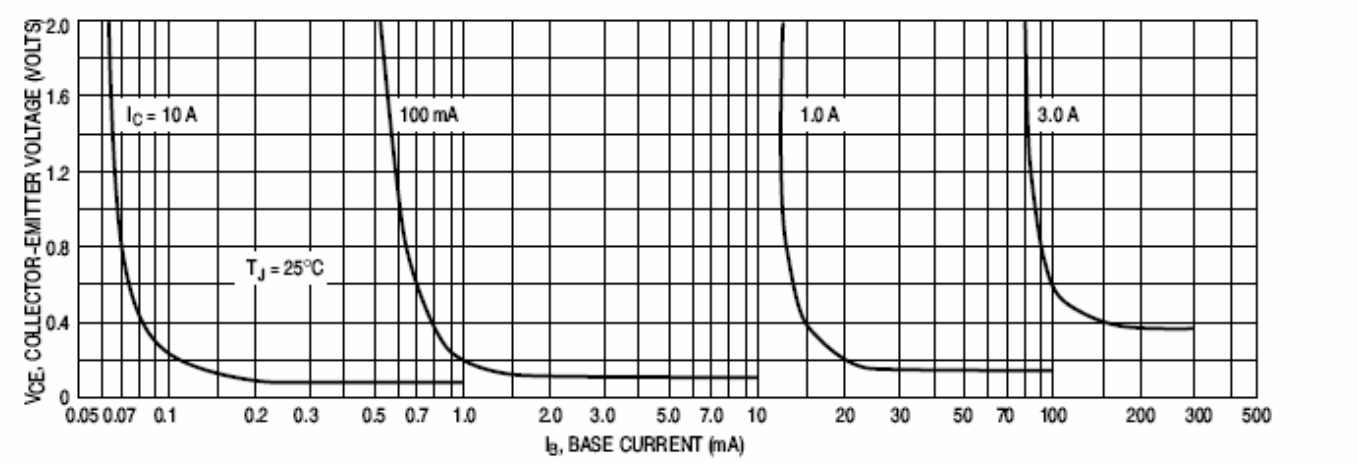

Figure 1. Collector Saturation Region

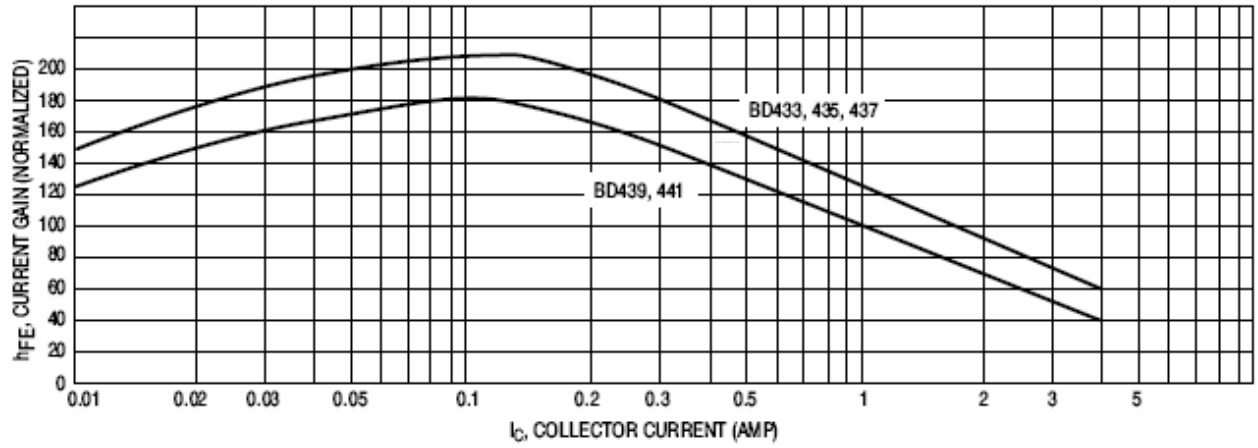

Figure 2. Current Gain

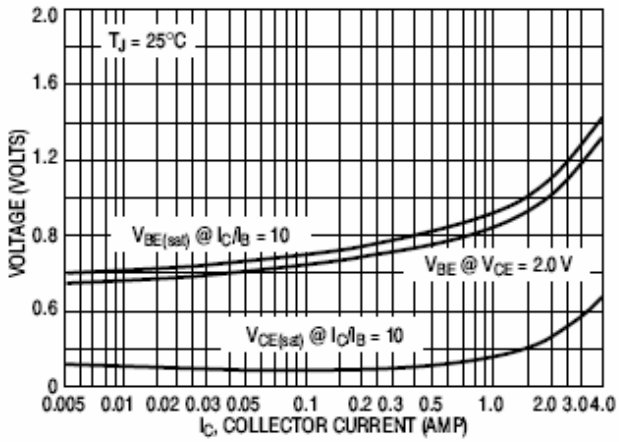

Figure 3. "On" Voltage

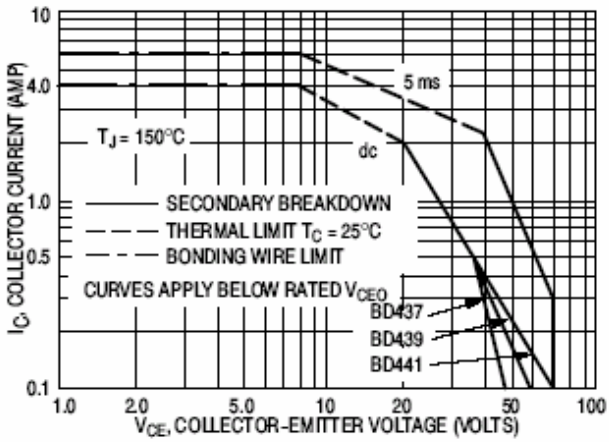

Figure 4. Active Region Safe Operating Area