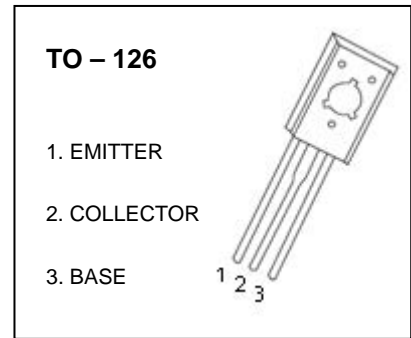


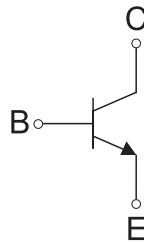
BD439 / BD441 TRANSISTOR (NPN)

FEATURES

- Amplifier and Switching Applications
- Complement To BD440, BD442



Equivalent Circuit



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

Symbol	Parameter		Value	Units
V_{CB0}	Collector-Base Voltage	BD439	60	V
		BD441	80	
V_{CE0}	Collector-Emitter Voltage	BD439	60	V
		BD441	80	
V_{EB0}	Emitter-Base Voltage		5	V
I_c	Collector Current –Continuous		4	A
P_C	Collector Power Dissipation		1.25	W
T_J, T_{stg}	Operation Junction and Storage Temperature Range		-55-150	$^{\circ}\text{C}$

$T_a=25\text{ }^\circ\text{C}$ unless otherwise specified

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

⁽¹⁾Pulse test

