

深圳市晶泰源电子有限公司

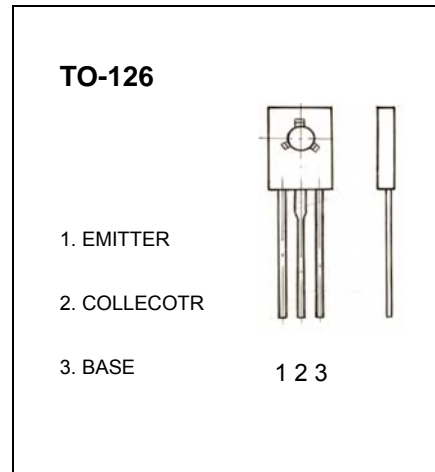
BD438,440,442 TRANSISTOR (PNP)

FEATURES

Amplifier and switching applications

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

Symbol	Parameter	Value	Units	
V_{CB0}	Collector-Base Voltage	BD438 -45 BD440 -60 BD442 -80	V	
	V_{CEO}	Collector-Emitter Voltage	BD438 -45 BD440 -60 BD442 -80	V
		V_{EBO}	Emitter-Base Voltage	-5
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	$^{\circ}\text{C}$	



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}, I_E=0$	BD438 -45 BD440 -60 BD442 -80			V	
		Collector-emitter breakdown voltage	$V_{CEO(SUS)}^{(1)}$	$I_C=-100\text{mA}, I_B=0$	BD438 -45 BD440 -60 BD442 -80		V
				Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-5
Collector cut-off current	I_{CBO}			$V_{CB}=-45\text{V}, I_E=0$	BD438		-0.1
		$V_{CB}=-60\text{V}, I_E=0$	BD440				
		$V_{CB}=-80\text{V}, I_E=0$	BD442				
Emitter cut-off current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$			-1	μA	
DC current gain	$h_{FE(1)}^{(1)}$	$V_{CE}=-5\text{V}, I_C=-10\text{mA}$	BD438 30 BD440 20 BD442 15				
		$h_{FE(2)}^{(1)}$	$V_{CE}=-1\text{V}, I_C=-500\text{mA}$	BD438 85 BD440/BD442 40		375 475	
			$h_{FE(3)}^{(1)}$	$V_{CE}=-1\text{V}, I_C=-2\text{A}$	BD438 40 BD440 25 BD442 15		
Collector-emitter saturation voltage	$V_{CE(sat)}^{(1)}$	$I_C=-3\text{A}, I_B=-300\text{mA}$		BD438 BD440/BD442		-0.7 -0.8	V
		Base-emitter voltage		$V_{BE}^{(1)}$	$V_{CE}=-1\text{V}, I_C=-2\text{A}$	BD438 BD440/BD442	
Transition frequency	f_T		$V_{CE}=-1\text{V}, I_C=-250\text{mA}, f=1\text{MHz}$		3		

⁽¹⁾Pulse test.