

TO-126 Plastic-Encapsulate Transistors

BD136/138/140 TRANSISTOR (PNP)

FEATURES

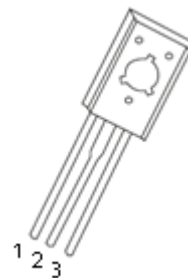
- High Current
- Complement To BD135, BD137 And BD139

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	BD136	-45
		BD138	-60
		BD140	-80
V_{CEO}	Collector-Emitter Voltage	BD136	-45
		BD138	-60
		BD140	-80
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-1.5	A
P_C	Collector Power Dissipation	1.25	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	100	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

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1. EMITTER
2. COLLECTOR
3. BASE



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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -0.1\text{mA}, I_E = 0$				V
			BD136	-45		
			BD138	-60		
BD140	-80					
Collector-emitter sustaining voltage	$V_{CEO(SUS)}^*$	$I_C = -0.03\text{A}, I_B = 0$				V
			BD136	-45		
			BD138	-60		
BD140	-80					
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -0.1\text{mA}, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -30\text{V}, I_E = 0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-10	μA
DC current gain	$h_{FE(1)}^*$	$V_{CE} = -2\text{V}, I_C = -150\text{mA}$	40		250	
	$h_{FE(2)}^*$	$V_{CE} = -2\text{V}, I_C = -5\text{mA}$	25			
	$h_{FE(3)}^*$	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	25			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-0.5	V
Base-emitter voltage	V_{BE}^*	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$			-1	V

*Pulse test: pulse width $\leq 350\mu\text{s}$, duty cycles $\leq 2.0\%$.

CLASSIFICATION OF $h_{FE(1)}$

RANK	6	10	16
RANGE	40-100	63-160	100-250

Static Characteristic

