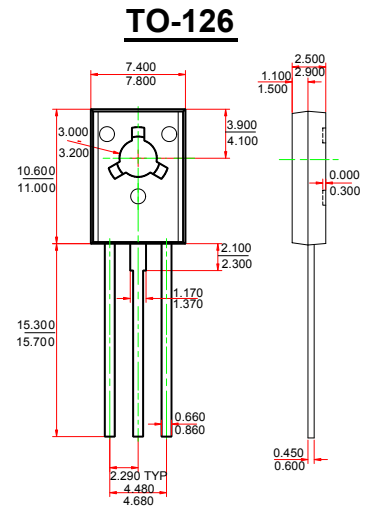


1. EMITTER
2. COLLECTOR
3. BASE



### Features

- ✧ High Current(-1.5A)
- ✧ Low Voltage(-80V)

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

Dimensions in inches and (millimeters)

Symbol	Parameter	Value			Units
		BD135	BD137	BD139	
$V_{CBO}$	Collector-Base Voltage	-45	-60	-80	V
$V_{CEO}$	Collector-Emitter Voltage	-45	-60	-80	V
$V_{EBO}$	Emitter-Base Voltage	-5			V
$I_C$	Collector Current -Continuous	-1.5			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)

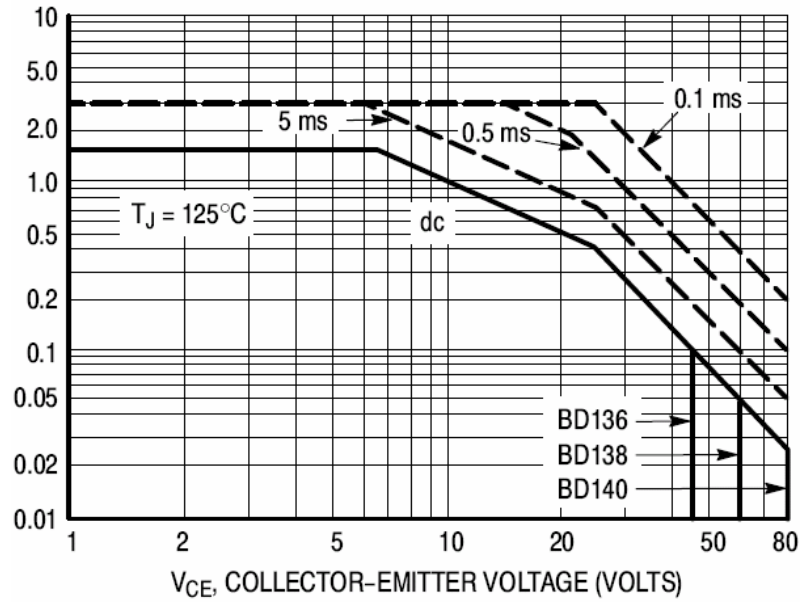
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}, I_E=0$	BD136	-45		V
			BD138	-60		
			BD140	-80		
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=-30\text{mA}, I_B=0$	BD136	-45		V
			BD138	-60		
			BD140	-80		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-30\text{V}, I_E=0$			-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$			-10	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=-2\text{V}, I_C=-5\text{mA}$	25			
	$h_{FE(2)}$	$V_{CE}=-2\text{V}, I_C=-150\text{mA}$	40		250	
	$h_{FE(3)}$	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$	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

#### CLASSIFICATION OF $h_{FE(2)}$

Rank	6	10	16
Range	40-100	63-160	100-250

## Typical Characteristics



**Figure 1. Active-Region Safe Operating Area**