

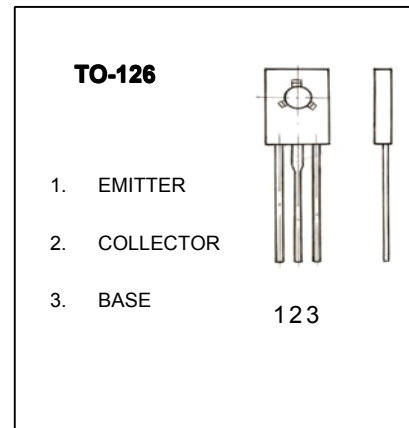


**DONGGUAN NANJING ELECTRONICS LTD.,**  
**TO-126 Plastic-Encapsulate Transistors**

BD135/BD137/BD139 TRANSISTOR (NPN)

**FEATURES**

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



**MAXIMUM RATINGS (TA=25°C unless otherwise noted )**

Symbol	Parameter	Value			Units
		BD135	BD137	BD139	
V <sub>CB0</sub>	Collector-Base Voltage	45	60	80	V
V <sub>CE0</sub>	Collector-Emitter Voltage	45	60	80	V
V <sub>EB0</sub>	Emitter-Base Voltage	5			V
I <sub>c</sub>	Collector Current -Continuous	1.5			A
P <sub>c</sub>	Collector power dissipation	1.25			W
T <sub>J</sub>	Junction Temperature	150			°C
T <sub>stg</sub>	Storage Temperature	-55-150			°C

**ELECTRICAL CHARACTERISTICS(Tamb=25 °C unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>c</sub> =100μA, I <sub>E</sub> =0	BD135	45		V
			BD137	60		
			BD139	80		
Collector-emitter breakdown voltage	V <sub>(BR)CEO*</sub>	I <sub>c</sub> =30mA, I <sub>b</sub> =0	BD135	45		V
			BD137	60		
			BD139	80		
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100μA, I <sub>c</sub> =0	5			V
Collector cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> =30V, I <sub>E</sub> =0			0.1	μA
Emitter cut-off current	I <sub>EB0</sub>	V <sub>EB</sub> =5V, I <sub>c</sub> =0			10	μA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =2V, I <sub>c</sub> =5mA	25			
	h <sub>FE(2)</sub>	V <sub>CE</sub> =2V, I <sub>c</sub> =150mA	40		250	
	h <sub>FE(3)</sub>	V <sub>CE</sub> =2V, I <sub>c</sub> =500mA	25			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =500mA, I <sub>b</sub> =50mA			0.5	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> =2V, I <sub>c</sub> =500mA			1	V

**\*PULSE TEST**

**CLASSIFICATION OF h<sub>FE(2)</sub>**

Rank			
Range	40-100	100-200	200-300

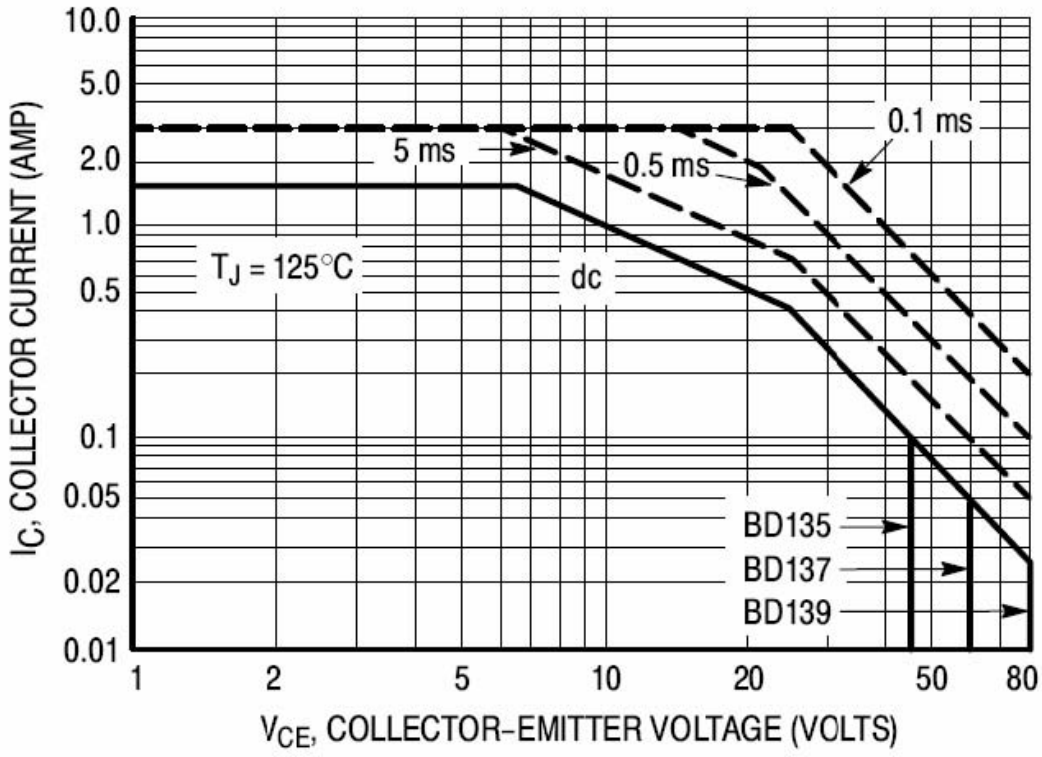


Figure 1. Active-Region Safe Operating Area