



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-126 Plastic-Encapsulate Transistors

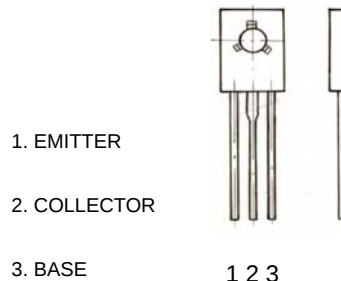
BD136/BD138/BD140 TRANSISTOR (PNP)

FEATURES

·High Current(-1.5A)

·Low Voltage(-80V)

TO-126



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

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 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	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$			-10	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-2\text{V}, I_C=-5\text{mA}$	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

BD136/BD138/BD140

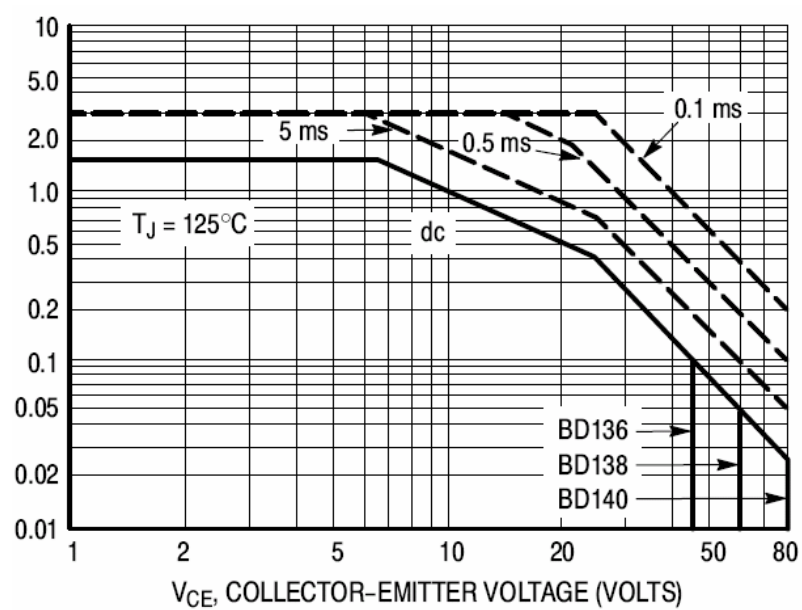


Figure 1. Active-Region Safe Operating Area