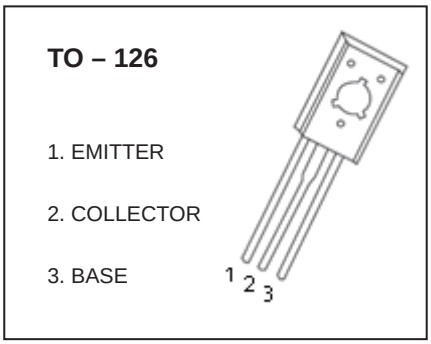
TO-126 Plastic-Encapsulate Transistors

BD135/137/139 TRANSISTOR (NPN)



FEATURES

- High Current
- Complement To BD136, BD138 And BD140

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	BD135	45	V
		BD137	60	
		BD139	80	
V_{CEO}	Collector-Emitter Voltage	BD135	45	V
		BD137	60	
		BD139	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	℃/W
T_j	Junction Temperature		150	℃
T_{stg}	Storage Temperature		-55~+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 0.1mA,I_E=0				
BD135			45			V
BD137			60			
BD139			80			
Collector-emitter sustaining voltage	$V_{CEO(SUS)}$*	I_C=0.03A,I_B=0				
BD135			45			V
BD137			60			
BD139			80			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.1mA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=30V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			10	μA
DC current gain	$h_{FE(1)}$*	V_{CE}=2V, I_C=150mA	40		250	
	$h_{FE(2)}$*	V_{CE}=2V, I_C=5mA	25			
	$h_{FE(3)}$*	V_{CE}=2V, I_C=500mA	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=500mA,I_B=50mA			0.5	V
Base-emitter voltage	V_{BE}*	V_{CE}=2V, I_C=500mA			1	V

*Pulse test: pulse width ≤350μs, duty cycle≤ 2.0%.

CLASSIFICATION OF $h_{FE(1)}$

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

Typical Characteristics