

Features

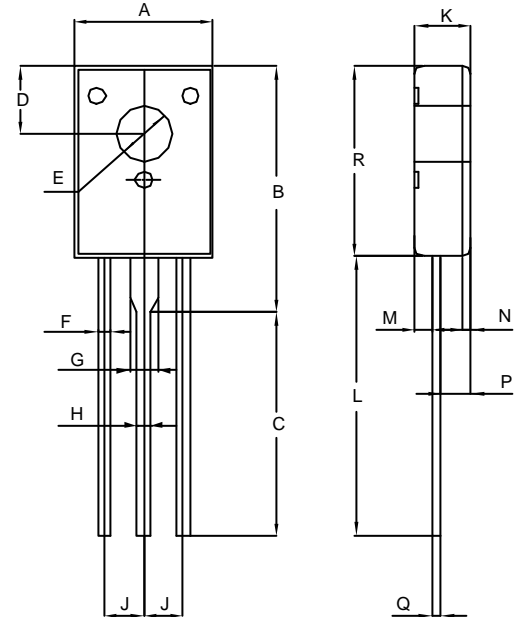
- DC Current Gain - $h_{FE} = 40$ (Min) @ $I_C = 150\text{mAdc}$
- Complementary with BD136, BD138, BD140

Maximum Ratings

Rating	Symbol	Value	Unit	
Collector-Emitter Voltage	BD135 BD137 BD139	V_{CEO}	45 60 80	Vdc
Collector-Base Voltage	BD135 BD137 BD139	V_{CBO}	45 60 100	Vdc
Emitter-Base Voltage		V_{EBO}	5.0	Vdc
Collector Current		I_C	1.5	Adc
Base Current		I_B	0.5	Adc
Total Device Dissipation @ $T_A=25^\circ\text{C}$ Derate above 25°C		P_D	1.25 10	Watt mW/°C
Total Device Dissipation @ $T_C=25^\circ\text{C}$ Derate above 25°C		P_D	12.5 100	Watt mW/°C
Operating & Storage Temperature Range	T_J, T_{STG}	-55 to +150		°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	10		°C/W
Maximum Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	100		°C/W

Power Transistors NPN Silicon 45,60,80 Volts

TO-126



Electrical Characteristics @ 25 °C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
BV_{CEO}	Collector-Emitter Sustaining Voltage* ($I_C=30\text{mA}, I_B=0$)	BD135 BD137 BD139	45 60 80	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=30\text{Vdc}, I_E=0$) ($V_{CB}=30\text{Vdc}, I_E=0, T_C=125^\circ\text{C}$)		0.1 10	μAdc
I_{EBO}	Emitter Cutoff Current ($V_{BE}=5.0\text{Vdc}, I_C=0$)		10	μAdc
h_{FE}	DC Current Gain* ($I_C=5\text{mAdc}, V_{CE}=2\text{Vdc}$) ($I_C=0.5\text{Adc}, V_{CE}=2\text{Vdc}$) ($I_C=150\text{mAdc}, V_{CE}=2\text{Vdc}$)	25 25 40	250	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=500\text{mAdc}, I_B=50\text{mAdc}$)		0.5	Vdc
$V_{BE(on)}$	Base-Emitter ON Voltage ($V_{CE}=2\text{V}, I_C=0.5\text{A}$)		1	Vdc

*Pulse test: Pulse width 300 μsec , Duty cycle 2%

DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.30	0.33	7.70	8.30	
B		0.56		14.20	
C	0.50	0.53	12.76	13.36	
D	0.15	0.16	3.80	4.0	
E	0.12	0.13	3.10	3.30	
F	0.025	0.033	0.65	0.85	
G	0.06	0.07	1.50	1.70	
H	0.025	0.033	0.65	0.85	
J	0.08	0.10	2.08	2.48	
K	0.12	0.14	3.05	3.45	
L	0.63	0.64	15.90	16.30	
M		0.04		1.0	
N		0.02		0.5	
P	0.06	0.08	1.55	1.95	
Q	0.018	0.023	0.45	0.60	
R	0.43	0.44	10.80	11.20	

BD135
BD137
BD139

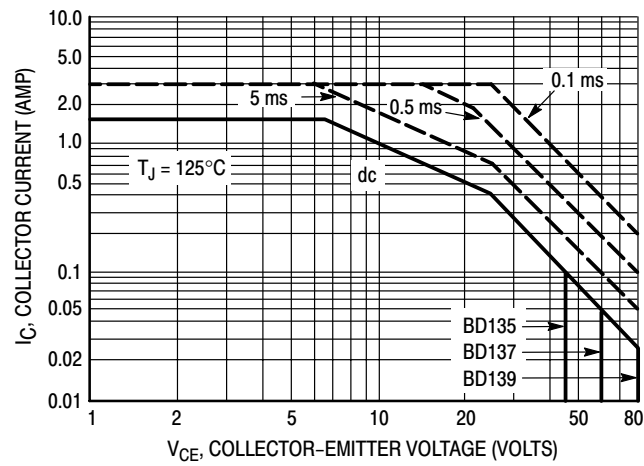


Figure 1. Active-Region Safe Operating Area