Micro Commercial Components
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BD135
BD137
BD139

Power Transistors
NPN Silicon
45,60,80 Volts

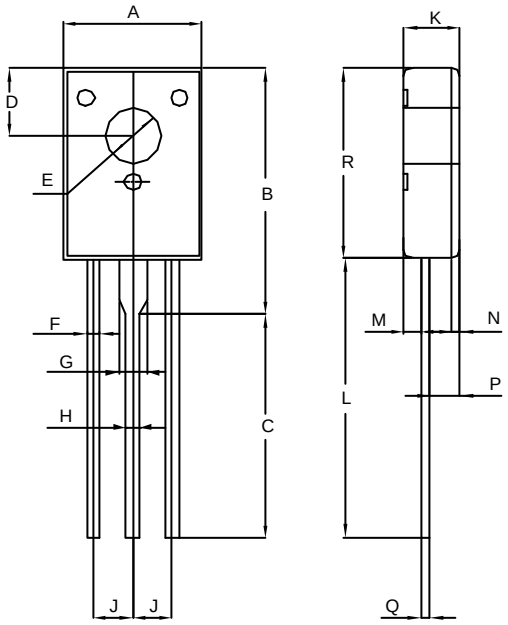
Features

- DC Current Gain - h_{FE} = 40 (Min) @I_C = 150mAdc
- 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℃ Derate above 25℃	P_D	1.25 10	Watt mW/℃
Total Device Dissipation @T_C=25℃ Derate above 25℃	P_D	12.5 100	Watt mW/℃
Operating & Storage Temperature Range	T_J, T_{STG}	-55 to +150	℃
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	10	℃/W
Maximum Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	100	℃/W

TO-126



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
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	

Electrical Characteristics @ 25 °C Unless Otherwise Specified

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

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

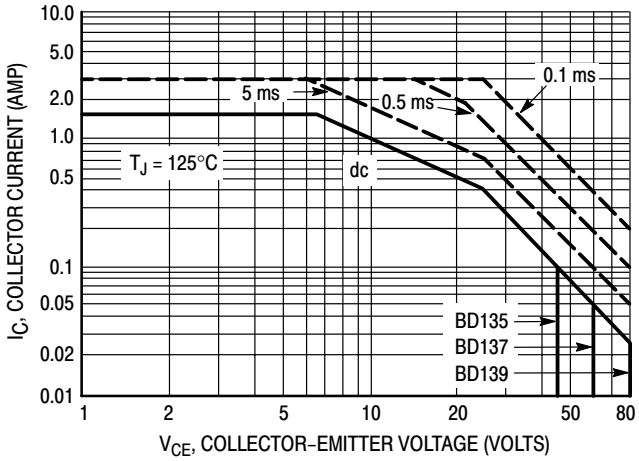


Figure 1. Active–Region Safe Operating Area