



Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

BD135 BD137 BD139

Features

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

Maximum Ratings

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	BD135 BD137 BD139	V_{CE0} 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/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C		P_D 12.5 100	Watt mW/ $^\circ\text{C}$
Operating & Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	10	$^\circ\text{C}/\text{W}$
Maximum Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	100	$^\circ\text{C}/\text{W}$

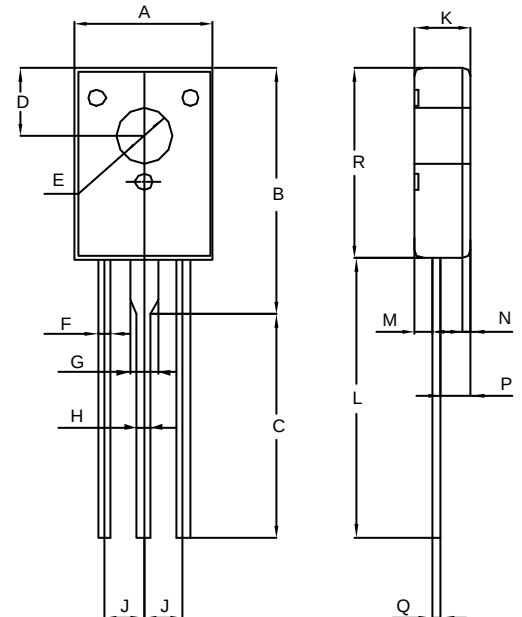
Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
BV_{CE0}	Collector-Emitter Sustaining Voltage* ($I_C = 30\text{mA}, I_B = 0$)	BD135 45 BD137 60 BD139 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* ($I_C = 5\text{mA}, V_{CE} = 2\text{Vdc}$) ($I_C = 0.5\text{Adc}, V_{CE} = 2\text{Vdc}$) ($I_C = 150\text{mA}, V_{CE} = 2\text{Vdc}$)	25 25 40	250	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C = 500\text{mA}, I_B = 50\text{mA}$)		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%

Power Transistors NPN Silicon 45,60,80 Volts

TO-18



DIMENSIONS

DIM	INCHES		MM		NOTE
	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

•M•C•C•

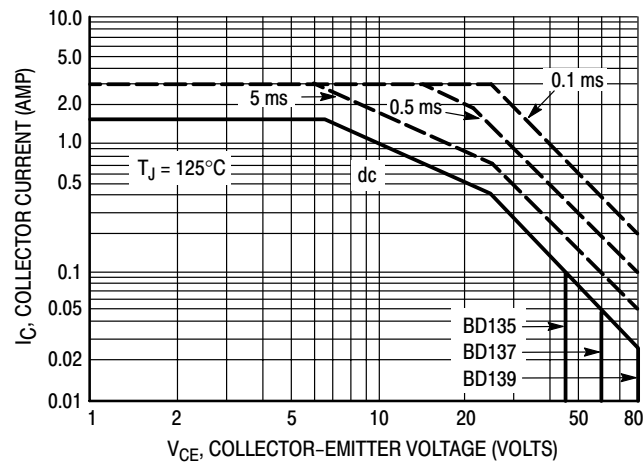


Figure 1. Active-Region Safe Operating Area