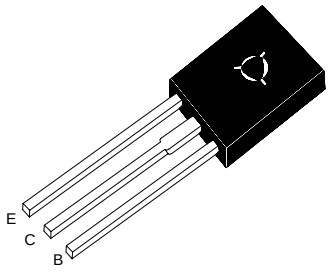
BD135, BD137, BD139

NPN SILICON EPITAXIAL POWER TRANSISTOR

These devices are designed as Audio Amplifier and Drivers Utilizing.



TO-126 Plastic Package

Absolute Maximum Ratings (T_a=25 °C)

Parameter	Symbol	BD135	BD137	BD139	Unit
Collector Emitter Voltage	V_{CEO}	45	60	80	V
Collector Emitter Voltage (R_{BE}=1KΩ)	V_{CER}	45	60	100	V
Collector Base Voltage	V_{CBO}	45	60	100	V
Emitter Base Voltage	V_{EBO}	5			V
Collector Current - Continuous Collector Current - Peak [1)]	I_C I_{CM}	1.5 2			A
Base Current - Continuous	I_B	0.5			A
Total Power Dissipation @ T_A=25 °C Derate above 25 °C	P_D	1.25 10			W mW/ °C
Total Power Dissipation @ T_C=25 °C Derate above 25 °C	P_D	12.5 100			W mW/ °C
Total Power Dissipation @ T_C=70 °C	P_D	8			W
Operating and Storage Junction Temperature Range	T_J, T_s	-55 to +150			°C
Thermal Resistance ,Junction to Ambient	$R_{\theta JA}$	100			°C/W
Thermal Resistance ,Junction to Case	$R_{\theta JC}$	10			°C/W

Characteristics at T_a=25 °C

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain					
at V_{CE}=2V, I_C=5mA		h_{FE}	25	-	-
at V_{CE}=2V, I_C=500mA		h_{FE}	25	-	-
at V_{CE}=2V, I_C=150mA	-6	h_{FE}	40	100	-
	-10	h_{FE}	63	160	-
	-16	h_{FE}	100	250	-
	-25	h_{FE}	160	400	-
Collector Emitter Sustaining Voltage					
at I_C=30mA	BD135	$V_{CEO(sus)}$	45	-	V
	BD137	$V_{CEO(sus)}$	60	-	V
	BD139	$V_{CEO(sus)}$	80	-	V
Collector Cutoff Current					
at V_{CB}=30V		I_{CBO}	-	0.1	μA
at V_{CB}=30V, T_C=125 °C		I_{CBO}	-	10	μA
Emitter Cutoff Current					
at V_{EB}=5V		I_{EBO}	-	10	μA
Collector Emitter Saturation Voltage					
at I_C=500mA, I_B=50mA		$V_{CE(sat)}$	-	0.5	V
Base Emitter On Voltage					
at I_C=500mA, V_{CE}=2V		$V_{BE(on)}$	-	1	V

Pulse Test: Pulse Width=300μs, Duty Cycle≤2%.