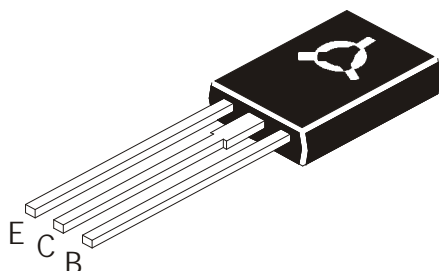


## NPN EPITAXIAL SILICON POWER TRANSISTORS

**BD135 BD137  
BD139**

**TO126  
Plastic Package**



Designed for use as Audio Amplifier and Drivers Utilizing

Complementary BD136, BD138, BD140

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	BD135	BD137	BD139	UNIT
Collector -Emitter Voltage	$V_{CEO}$	45	60	80	V
Collector -Emitter Voltage ( $R_{BE}=1kW$ )	$V_{CER}$	45	60	100	V
Collector -Base Voltage	$V_{CBO}$	45	60	100	V
Emitter Base Voltage	$V_{EBO}$	5.0			V
Collector Current	$I_C$	1.5			A
Collector Peak Current	$I_{CM}$	2.0			A
Base Current	$I_B$	0.5			A
Power Dissipation @ $T_a=25^{\circ}C$	$P_D$	1.25			W
Derate above $25^{\circ}C$		10			mW/ $^{\circ}C$
Power Dissipation @ $T_c=25^{\circ}C$	$P_D$	12.5			W
Derate above $25^{\circ}C$		100			mW/ $^{\circ}C$
Power Dissipation @ $T_c=70^{\circ}C$	$P_D$	8.0			W
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$	- 55 to +150			$^{\circ}C$

### THERMAL CHARACTERISTICS

Junction to Ambient in free air	$R_{th(j-a)}$	100	$^{\circ}C/W$
Junction to Case	$R_{th(j-c)}$	10	$^{\circ}C/W$

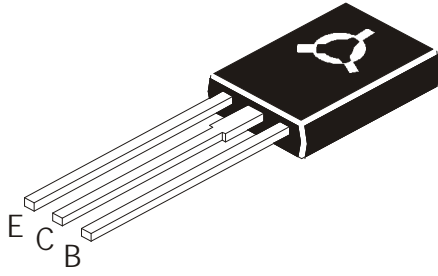
### ELECTRICAL CHARACTERISTICS ( $T_c=25^{\circ}C$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter Sustaining Voltage	* $V_{CEO(sus)}$	$I_C=30mA, I_B=0$			
		<b>BD135</b>	45		V
		<b>BD137</b>	60		V
		<b>BD139</b>	80		V
Collector Cut off Current	$I_{CBO}$	$V_{CB}=30V, I_E=0$		0.1	$\mu A$
		$V_{CB}=30V, I_E=0, T_c=125^{\circ}C$		10	$\mu A$
Emitter Cut off Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$		10	$\mu A$
DC Current Gain	* $h_{FE}$	$I_C=0.005A, V_{CE}=2V$	25		
		$I_C=0.15A, V_{CE}=2V$	40	250	
		$I_C=0.5A, V_{CE}=2V$	25		

\*Pulse test:- Pulse width=300ms, duty cycle=2%

# NPN EPITAXIAL SILICON POWER TRANSISTORS

BD135 BD137  
BD139



TO126  
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## ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
DC Current Gain	* $h_{FE}$ Group	$I_C=0.15\text{A}$ , $V_{CE}=2\text{V}$			
		- 6	40	100	
		- 10	63	160	
		- 16	100	250	
		- 25	160	400	
Collector Emitter Saturation Voltage	* $V_{CE(sat)}$	$I_C=0.5\text{A}$ , $I_B=0.05\text{A}$		0.5	V
Base Emitter On Voltage	* $V_{BE(on)}$	* $I_C=0.5\text{A}$ , $V_{CE}=2\text{V}$		1.0	V

\*Pulse test:- Pulse width=300ms, duty cycle=2%



**Component Disposal Instructions**

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

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