

CentralTM

Semiconductor Corp.

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 Manufacturer of World Class Discrete Semiconductors
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BD135
 BD137
 BD139

NPN SILICON TRANSISTORS

JEDEC TO-126 CASE

DESCRIPTION: The Central Semiconductor BD135, BD137, and BD139 types are NPN Silicon Epitaxial Planar Transistors designed for audio amplifier and switching applications.

MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

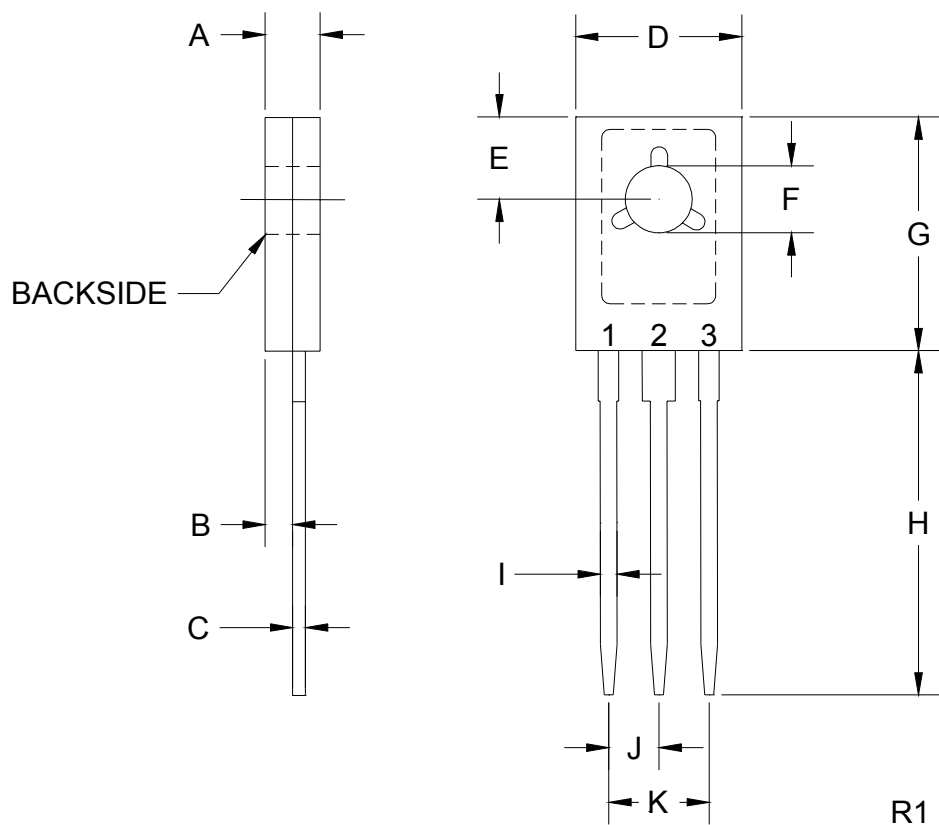
	<u>SYMBOL</u>	<u>BD135</u>	<u>BD137</u>	<u>BD139</u>	<u>UNIT</u>
Collector-Base Voltage	V_{CBO}	45	60	80	V
Collector-Emitter Voltage	V_{CEO}	45	60	80	V
Emitter-Base Voltage	V_{EBO}		5.0		V
Collector Current	I_C		1.5		A
Peak Collector Current	I_{CM}		3.0		A
Base Current	I_B		0.5		A
Power Dissipation	P_D		12.5		W
Power Dissipation ($T_A=25^\circ\text{C}$)	P_D		1.25		W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +150		$^\circ\text{C}$
Thermal Resistance	θ_{JC}		10		$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}		100		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>BD135</u>		<u>BD137</u>		<u>BD139</u>		<u>UNIT</u>
		<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>	
I_{CBO}	$V_{CB}=30\text{V}$		100		100		100	nA
I_{CBO}	$V_{CB}=30\text{V}, T_C=125^\circ\text{C}$		10		10		10	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		10		10		10	μA
BV_{CEO}	$I_C=30\text{mA}$	45		60		80		V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.5		0.5		0.5	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$		1.0		1.0		1.0	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=5.0\text{mA}$	25		25		25		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=150\text{mA}$	40	250	40	160	40	160	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	25		25		25		

		BD135-6		BD135-10		BD135-16		
		BD137-6		BD137-10		BD137-16		
		BD139-6		BD139-10		BD139-16		
<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=150\text{mA}$	40	100	63	160	100	250	

(SEE REVERSE SIDE)

JEDEC TO-126 CASE - MECHANICAL OUTLINE

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.094	0.106	2.39	2.69
B	0.047		1.19	
C	0.019	0.029	0.48	0.74
D	0.295	0.307	7.49	7.80
E	0.149		3.78	
F	0.118	0.126	3.00	3.20
G	0.413	0.425	10.49	10.80
H	0.618		15.70	
I	0.027	0.035	0.69	0.89
J	0.087		2.21	
K	0.173		4.39	

TO-126 (REV:R1)

Lead Code:

1. Emitter
2. Collector
3. Base

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