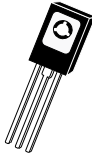


BD135
BD137
BD139

NPN SILICON TRANSISTOR



TO-18 CASE

Central™

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BD135, BD137, and BD139 are NPN Silicon Epitaxial Planar Transistors designed for audio amplifier and switching applications.

MARKING: FULL PART NUMBER

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

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Continuous Base Current
Peak Base Current
Power Dissipation ($T_{mb}\leq 70^\circ\text{C}$)
Power Dissipation ($T_A=25^\circ\text{C}$)
Operating and Storage Junction Temperature
Thermal Resistance
Thermal Resistance

SYMBOL	BD135	BD137	BD139	UNITS
V_{CBO}	45	60	100	V
V_{CEO}	45	60	80	V
V_{EBO}		5.0		V
I_C		1.5		A
I_{CM}		2.0		A
I_B		0.5		A
I_{BM}		1.0		A
P_D		8.0		W
P_D		1.25		W
T_J, T_{stg}		-65 to +150		$^\circ\text{C}$
θ_{Jmb}		10		$^\circ\text{C/W}$
θ_{JA}		100		$^\circ\text{C/W}$

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

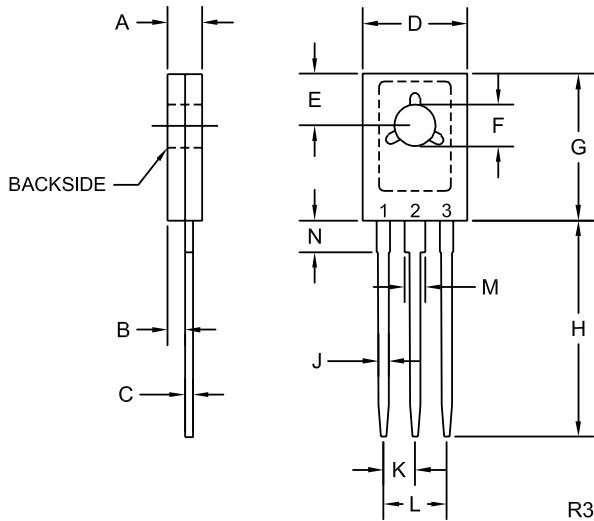
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$			100	nA
I_{CBO}	$V_{CB}=30\text{V}, T_C=125^\circ\text{C}$			10	μA
I_{EBO}	$V_{EB}=5.0\text{V}$			100	nA
BV_{CEO}	$I_C=30\text{mA}$ (BD135)	45			V
BV_{CEO}	$I_C=30\text{mA}$ (BD137)	60			V
BV_{CEO}	$I_C=30\text{mA}$ (BD139)	80			V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.5	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$			1.0	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=5.0\text{mA}$	40			
h_{FE}	$V_{CE}=2.0\text{V}, I_C=150\text{mA}$	63		250	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	25			
f_T	$V_{CE}=5.0\text{V}, I_C=50\text{mA}, f=100\text{MHz}$		190		MHz

BD135-10		BD135-16	
BD137-10		BD137-16	
BD139-10		BD139-16	
MIN	MAX	MIN	MAX
63	160	100	250

SYMBOL	TEST CONDITIONS
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$

NPN SILICON TRANSISTOR

TO-18 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.094	0.110	2.40	2.80
B	0.050		1.27	
C	0.015	0.030	0.38	0.75
D	0.291	0.335	7.40	8.50
E	0.148		3.75	
F	0.118	0.134	3.00	3.40
G	0.413	0.472	10.50	12.00
H	0.618		15.70	
J	0.024	0.035	0.62	0.90
K	0.089		2.25	
L	0.177		4.50	
M	0.045	0.055	1.14	1.40
N	0.083		2.10	

TO-18 (REV:R3)

LEAD CODE:

- 1) Emitter
 - 2) Collector
 - 3) Base
- Mounting Pad is
Common to Pin 2

**MARKING:
FULL PART NUMBER**