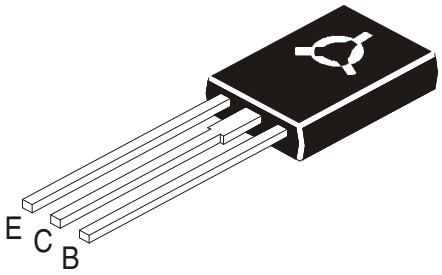
NPN EPITAXIAL SILICON POWER TRANSISTORS

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}=1kΩ)	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=25ºC Derate above 25ºC	P_D	1.25 10			W mW/ºC
Power Dissipation @ T_c=25ºC Derate above 25ºC	P_D	12.5 100			W mW/ºC
Power Dissipation @ T_c=70ºC	P_D	8.0			W
Operating And Storage Junction Temperature Range	T_j, T_{stg}	- 55 to +150			ºC

THERMAL CHARACTERISTICS

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

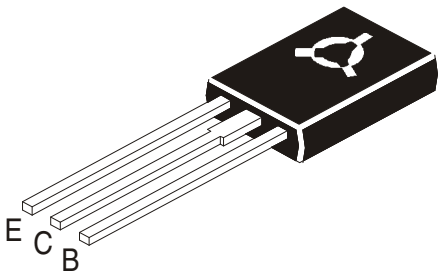
ELECTRICAL CHARACTERISTICS (T_c=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter Sustaining Voltage	*$V_{CEO\ (sus)}$	I_C=30mA, I_B=0			
		BD135	45		V
		BD137	60		V
		BD139	80		V
Collector Cut off Current	I_{CBO}	V_{CB}=30V, I_E=0		0.1	µA
		V_{CB}=30V, I_E=0, T_c=125ºC		10	µA
Emitter Cut off Current	I_{EBO}	V_{EB}=5V, I_C=0		10	µA
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=300µs, duty cycle=2%**

NPN EPITAXIAL SILICON POWER TRANSISTORS

BD135 BD137 BD139



TO126
Plastic Package

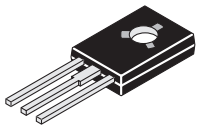
ELECTRICAL CHARACTERISTICS (T_c=25ºC unless specified otherwise)

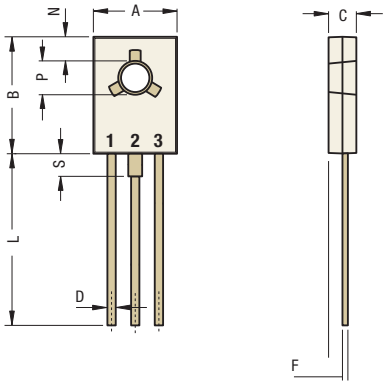
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
DC Current Gain	*h_{FE} Group	I_C=0.15A, V_{CE}=2V			
		- 6	40	100	
		- 10	63	160	
		- 16	100	250	
		- 25	160	400	
Collector Emitter Saturation Voltage	*$V_{CE\ (sat)}$	I_C=0.5A, I_B=0.05A		0.5	V
Base Emitter On Voltage	*$V_{BE(on)}$	*I_C=0.5A, V_{CE}=2V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

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

TO126
Plastic Package

TO-126
Leaded Plastic Package





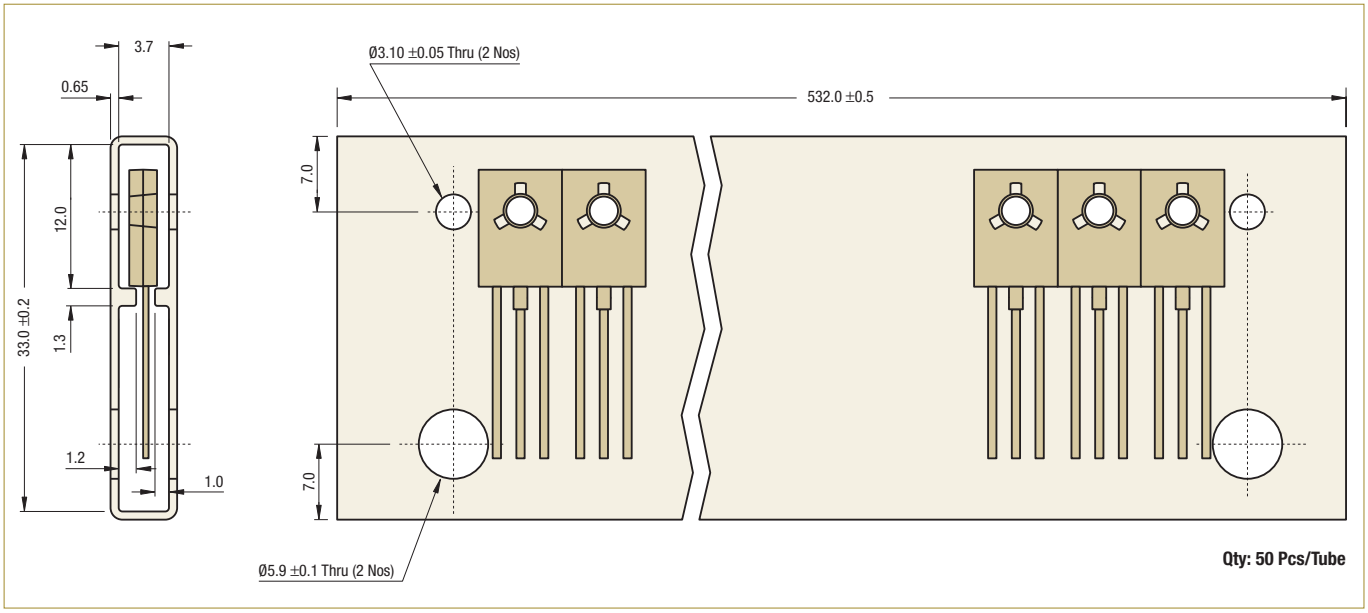
DIM	Min	Max
A	7.12	8.38
B	10.16	11.43
C	2.29	3.04
D	0.64	0.88
E	2.040	2.285
F	0.39	0.63

DIM	Min	Max
G	4.07	5.08
L	15.00	16.63
M	0.89	1.65
N	3.31	4.44
P	2.54	3.30
S	—	2.54

Pin Configurations

Pin 1: Emitter Pin 2: Collector Pin 3: Base

TO-126 Series Packaging Tube



Packaging Specifications ...

T & A: Tape and Ammo Pack; **T & R:** Tape and Reel; **Bulk:** Loose in Poly Bags; **Tube:** Tube and Carton; **K:** 1,000

Package / Case Type	Packaging Type	Std. Packing	Inner Carton			Outer Carton		
		Qty	Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
TO-126	Bulk	2,000	2K	19 x 19 x 8	1.4	20K	46 x 38 x 22	15.6
	Tube	1,000 (50 pcs/tube)	1K	55 x 8 x 10	1.5	10K	55 x 35 x 27	16.3

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).

Disclaimer

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