



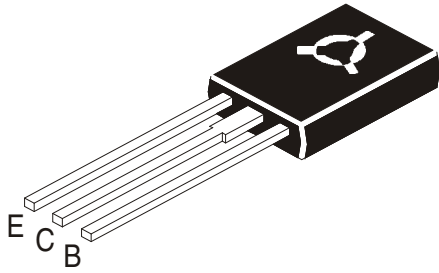
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EN: This Datasheet is presented by the manufacturer.

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EPITAXIAL SILICON POWER TRANSISTORS



BD433	BD434
BD435	BD436
BD437	BD438
BD439	BD440
BD441	BD442
NPN	PNP

**TO126
Plastic Package**

Intended for use in Medium Power Linear and Switching Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	BD433 BD434	BD435 BD436	BD437 BD438	BD439 BD440	BD441 BD442	UNIT	
Collector Base Voltage	V_{CBO}	22	32	45	60	80	V	
Collector Emitter Voltage	V_{CES}	22	32	45	60	80	V	
Collector Emitter Voltage	V_{CEO}	22	32	45	60	80	V	
Emitter Base Voltage	V_{EBO}	5.0						V
Collector Current	I_C	4.0						A
Collector Peak Current (t=10ms)	I_{CM}	7.0						A
Base Current	I_B	1.0						A
Total Dissipation @ $T_C=25^\circ C$	P_D	36.0						W
Total Dissipation @ $T_a=25^\circ C$ Derate above $25^\circ C$	P_D	1.25 10						W mW/°C
Operating And Storage Junction Temperature Range	T_j, T_{stg}	- 65 to 150						°C

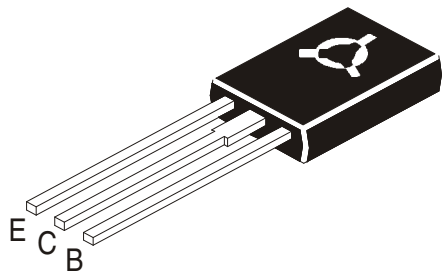
THERMAL RESISTANCE

Junction to Case	$R_{th(j-c)}$	3.5	°C/W
Junction to Ambient in free air	$R_{th(j-a)}$	100	°C/W

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	BD433 BD434	BD435 BD436	BD437 BD438	BD439 BD440	BD441 BD442	UNIT
Collector Cut Off Current	I_{CBO}	$V_{CB}=\text{Rated } V_{CBO}, I_E=0$	<100	<100	<100	<100	<100	μA
Collector Cut Off Current	I_{CES}	$V_{BE}=0, V_{CE}=\text{Rated } V_{CES}$	<100	<100	<100	<100	<100	μA
Emitter Cut Off Current	I_{EBO}	$V_{EB}=5V, I_C=0$	<1.0	<1.0	<1.0	<1.0	<1.0	mA
Collector Emitter Sustaining Voltage	$*V_{CEO(sus)}$	$I_C=100mA, I_B=0$	>22	>32	>45	>60	>80	V
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=2.0A, I_B=0.2A$	<0.5	<0.5	<0.6	<0.8	<0.8	V
Base Emitter On Voltage	$*V_{BE(on)}$	$I_C=10mA, V_{CE}=5V$ ALL	typ 0.58					V
		$I_C=2.0A, V_{CE}=1V$	<1.1	<1.1	<1.2	<1.5	<1.5	V

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ELECTRICAL CHARACTERISTICS (T_C=25°C unless specified otherwise)

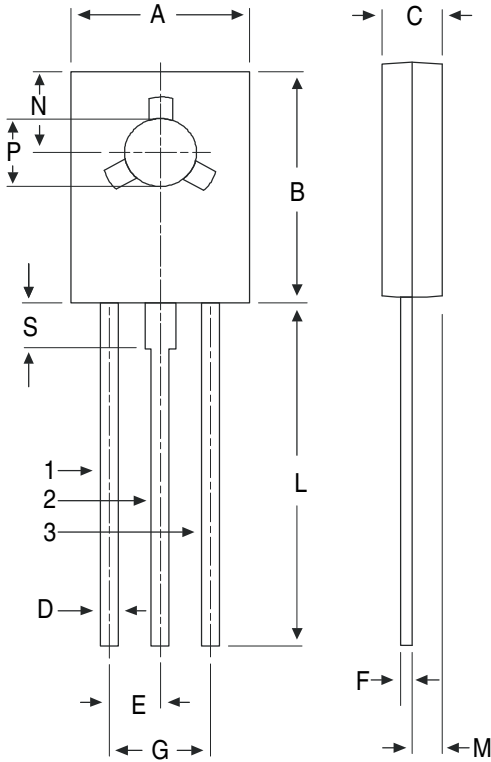
DESCRIPTION	SYMBOL	TEST CONDITION	BD433	BD435	BD437	BD439	BD441	UNIT
			BD434	BD436	BD438	BD440	BD442	
DC Current Gain	*h _{FE}	I _C =10mA, V _{CE} =5V	>40	>40	>30	>20	>15	
		I _C =500mA, V _{CE} =1V	>85	>85	>85	>40	>40	
		I _C =2.0A, V _{CE} =1V	>50	>50	>40	>25	>15	
*h _{FE1} / h _{FE2}	Matched Pairs	I _C =500mA, V _{CE} =1V ALL	<1.4					
Current Gain Bandwidth Product	f _T	I _C =250mA, V _{CE} =1V ALL	>3.0					MHz

*Pulsed Pulse Duration=300μs, Duty Cycle=1.5%

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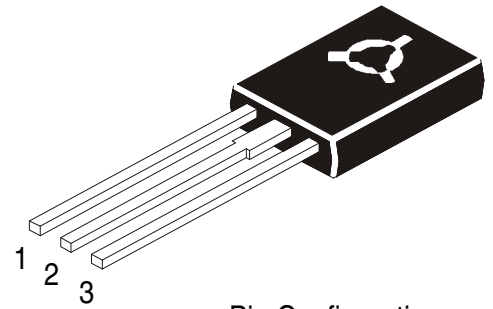
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Plastic Package

TO-126 (SOT-32) Plastic Package



DIM	MIN	MAX
A	7.4	7.8
B	10.5	10.8
C	2.4	2.7
D	0.7	0.9
E	2.25 TYP.	
F	0.49	0.75
G	4.5 TYP.	
L	15.7 TYP.	
M	1.27 TYP.	
N	3.75 TYP.	
P	3.0	3.2
S	2.5 TYP.	

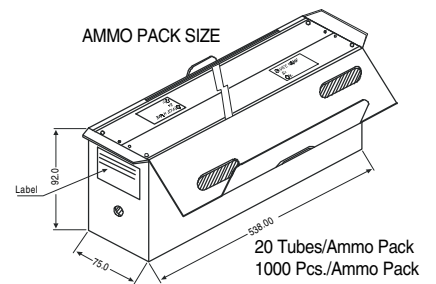
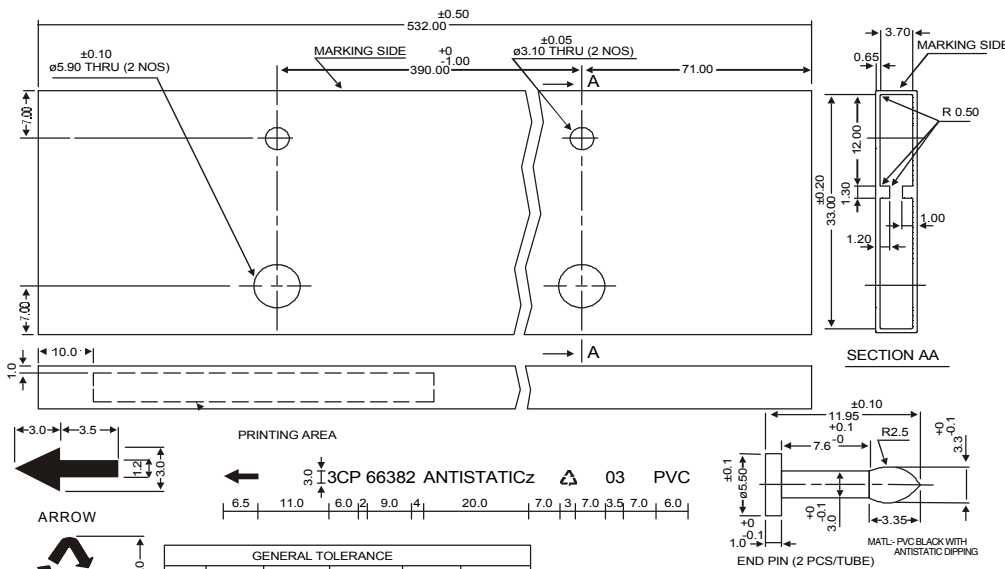
All dimensions in mm.



Pin Configuration

1. Emitter
2. Collector
3. Base

TO-126 TUBE PACKING



- Notes:
1. All print in black.
 2. All text in Helvetia medium font.

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-126 Bulk	500 pcs/polybag	340 gm/500 pcs	3" x 7.5" x 7.5"	2K	17" x 15" x 13.5"	32K	31 kgs
TO-126 Tube	50 pcs/tube	73 gm/50 pcs	3" x 3.7" x 21.5"	1K	19" x 19" x 19"	10K	15 kgs

Notes

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Disclaimer

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