



Micro Commercial Components



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BD433/BD435/BD437

Features

- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Intended for use in medium power near and switching applications
- With TO-126 package
- The complementary PNP type is BD434, BD436, BD438
- Halogen free available upon request by adding suffix "-HF"

Maximum Ratings

Symbol	Parameter	Rating	Unit		
V_{CEO}	Collector-Emitter Voltage	BD433 BD435 BD437	22 32 45	V	
	V_{CBO}	Collector-Base Voltage	BD433 BD435 BD437	22 32 45	V
		V_{EBO}	Emitter-Base Voltage	BD433 BD435 BD437	5.0
I_C			Collector Current	4.0	A
P_C	Collector power dissipation		1.25	W	
T_J	Junction Temperature	-55 to +150	°C		
T_{STG}	Storage Temperature	-55 to +150	°C		

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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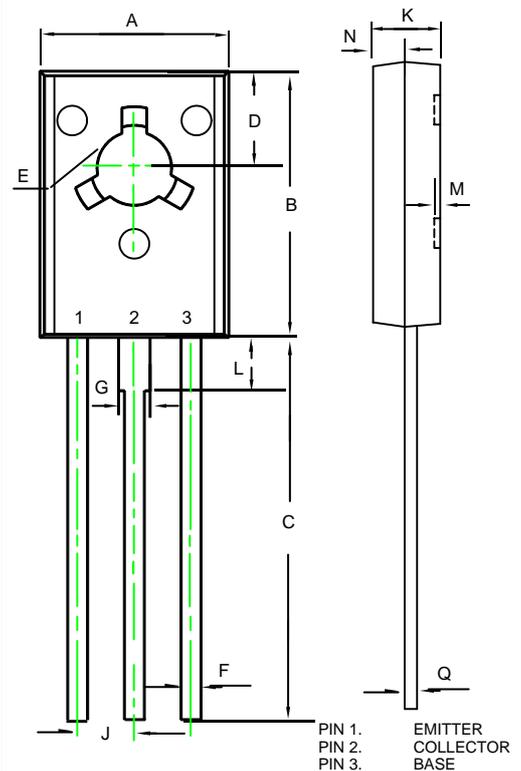
OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=100\text{mA}$, $I_B=0$)	BD433 BD435 BD437	22 32 45	---	Vdc	
	$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=100\ \mu\text{A}$, $I_E=0$)	BD433 BD435 BD437	22 32 45	---	Vdc
		$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=100\ \mu\text{A}$, $I_C=0$)		5	---
I_{CBO}		Collector-Base Cutoff Current ($V_{CB}=22\text{Vdc}$, $I_E=0$)	BD433	---	1.0	μA
	($V_{CB}=32\text{Vdc}$, $I_E=0$)	BD435				
	($V_{CB}=45\text{Vdc}$, $I_E=0$)	BD437				
I_{CEO}	Collector-Base Cutoff Current ($V_{CE}=22\text{Vdc}$, $I_E=0$)	BD433	---	10	μA	
	($V_{CE}=32\text{Vdc}$, $I_E=0$)	BD435				
	($V_{CE}=45\text{Vdc}$, $I_E=0$)	BD437				
I_{EBO}	Emitter-Base Cutoff Current ($V_{EB}=5.0\text{Vdc}$, $I_C=0$)		---	1.0	μA	

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

NPN Silicon Power Transistors

TO-126



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.291	0.307	7.40	7.80	
B	0.417	0.433	10.60	11.00	
C	0.602	0.618	15.30	15.70	
D	0.154	0.161	3.90	4.10	
E	0.118	0.126	3.00	3.20	
F	0.026	0.034	0.66	0.86	
G	0.046	0.054	1.17	1.37	
J	0.090TYP		2.290TYP		
K	0.098	0.114	2.50	2.90	
L	0.083	0.091	2.10	2.30	
M	0.000	0.012	0.00	0.30	
N	0.043	0.059	1.10	1.50	
Q	0.018	0.024	0.45	0.60	

ON CHARACTERISTICS

h_{FE-1}	DC Current Gain ($I_C=500\text{mA}$, $V_{CE}=1.0\text{Vdc}$)		85	---	---
h_{FE-2}	DC Current Gain ($I_C=10\text{mA}$, $V_{CE}=5.0\text{Vdc}$)	BD433/BD435 BD437	40 30	---	---
h_{FE-3}	DC Current Gain ($I_C=2\text{A}$, $V_{CE}=1.0\text{Vdc}$)	BD433/BD435 BD437	50 40	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=2.0\text{A}$, $I_B=0.2\text{A}$)	BD433/BD435 BD437	0.5 0.6	---	Vdc
V_{BE}	Base-Emitter Voltage ($V_{CE}=1.0\text{Vdc}$, $I_C=2.0\text{A}$)	BD433/BD435 BD437	1.1 1.2	---	Vdc
f_T	Transition Frequency ($I_C=250\text{mA}$, $V_{CE}=1.0\text{Vdc}$)		3.0	---	MHz



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Ordering Information :

Device	Packing
Part Number-BP	Bulk; 1Kpcs/Box

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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