

New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

Silicon NPN Power Transistors

BD433/435/437

DESCRIPTION

- With TO-126 package
- Complement to type BD434/436/438

APPLICATIONS

- For medium power linear and switching applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector;connected to mounting base
3	Base

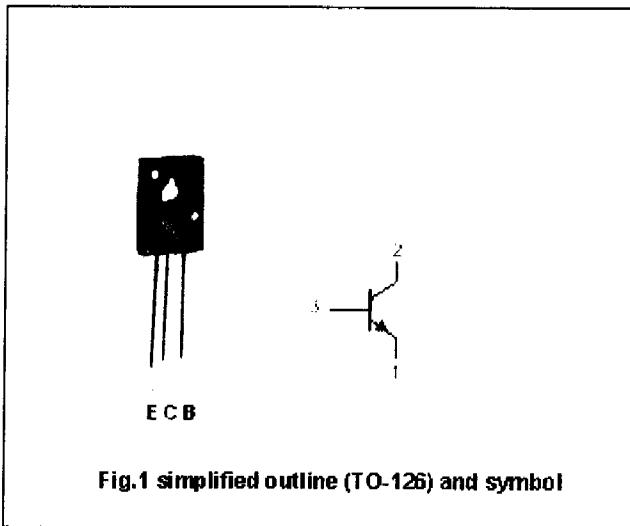
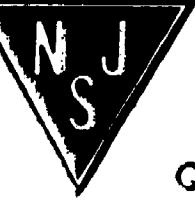


Fig.1 simplified outline (TO-126) and symbol

Absolute maximum ratings ($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	22	V
			32	
			45	
V_{CEO}	Collector-emitter voltage	Open base	22	V
			32	
			45	
V_{EB0}	Emitter -base voltage	Open collector	5	V
I_C	Collector current (DC)		4	A
I_{CM}	Collector current-Peak		7	A
I_B	Base current		1	A
P_C	Collector power dissipation	$T_c=25^\circ\text{C}$	36	W
T_j	Junction temperature		150	°C
T_{stg}	Storage temperature		-65~150	°C

NJ Semi-Conductors reserves the right to change test conditions, parameters limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



Quality Semi-Conductors

CHARACTERISTICS

 $T_j=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V_{CEsat}	Collector-emitter saturation voltage	BD433/435	$I_c=2\text{A}; I_b=0.2\text{A}$		0.2	0.5	V
		BD437				0.6	
V_{BE}	Base-emitter on voltage	BD433/435	$I_c=2\text{A}; V_{CE}=1\text{V}$			1.1	V
		BD437				1.2	
$V_{CEO(sus)}$	Collector-emitter sustaining voltage	BD433	$I_c=0.1\text{A}; I_b=0$	22			V
		BD435		32			
		BD437		45			
I_{CES}	Collector cut-off current	BD433	$V_{CB}=22\text{V}; I_E=0$			100	μA
		BD435	$V_{CB}=32\text{V}; I_E=0$				
		BD437	$V_{CB}=45\text{V}; I_E=0$				
I_{CES}	Collector cut-off current	BD433	$V_{CE}=22\text{V}; V_{BE}=0$			100	μA
		BD435	$V_{CE}=32\text{V}; V_{BE}=0$				
		BD437	$V_{CE}=45\text{V}; V_{BE}=0$				
I_{EBO}	Emitter cut-off current		$V_{EB}=5\text{V}; I_C=0$			1	mA
h_{FE-1}	DC current gain	BD433/435	$I_C=10\text{mA}; V_{CE}=5\text{V}$	40		130	
		BD437		30			
h_{FE-2}	DC current gain		$I_C=0.5\text{A}; V_{CE}=1\text{V}$	85		140	
h_{FE-3}	DC current gain	BD433/435	$I_C=2\text{A}; V_{CE}=1\text{V}$	50			
		BD437		40			
f_T	Transition frequency		$I_C=250\text{mA}; V_{CE}=1\text{V}$	3			MHz

