

Silicon NPN Power Transistor



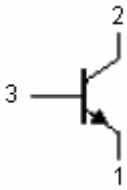
Application:

For medium power linear and switching applications



Fig. 1 Simplified Outline (TO-126) and Symbol

Pinning



Pin	Description
1	Emitter
2	Collector; connected to mounting base
3	Base

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Symbol	Parameter	Conditions	Value	Unit
V_{CBO}	Collector - base voltage	Open emitter	45	V
V_{CEO}	Collector - emitter voltage	Open base	45	V
V_{EBO}	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	$^\circ\text{C}$
T_{stg}	Storage temperature	-	-65 to 150	$^\circ\text{C}$

Characteristics ($T_j = 25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Unit
V_{CEsat}	Collector - emitter saturation voltage	$I_C = 2\text{ A}$; $I_B = 0.2\text{ A}$	-	0.2	0.6	V
V_{BE}	Base - emitter on voltage	$I_C = 2\text{ A}$; $V_{CE} = 1\text{ V}$	-	-	1.2	V
$V_{CEO(SUS)}$	Collector - emitter sustaining voltage	$I_C = 0.1\text{ A}$; $I_B = 0$	45	-	-	V
I_{CES}	Collector cut-off current	$V_{CB} = 45\text{ V}$; $I_E = 0$	-	-	100	mA
I_{CES}	Collector cut-off current	$V_{CE} = 45\text{ V}$; $V_{BE} = 0$			100	mA
I_{EBO}	Emitter cut-off current	$V_{EB} = 5\text{ V}$; $I_C = 0$	-	-	1	mA
h_{FE-1}	DC current gain	$I_C = 10\text{ mA}$; $V_{CE} = 5\text{ V}$	30	-	130	-

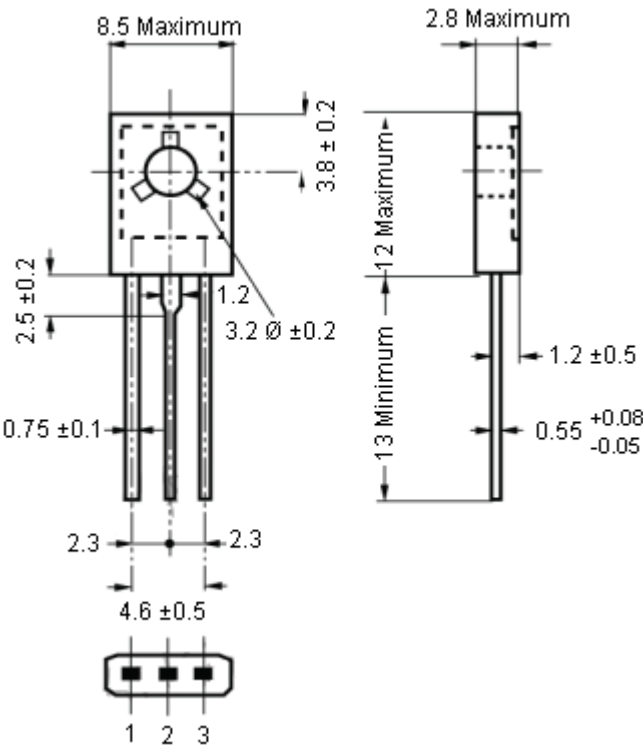
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Characteristics (T_j = 25°C Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Unit
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	$I_C = 2\text{ A}; V_{CE} = 1\text{ V}$	40	-	-	-
f_T	Transition frequency	$I_C = 250\text{ mA}; V_{CE} = 1\text{ V}$	3	-	-	MHz

Package Outline



Dimensions : Millimetres

Fig. 2 Outline Dimensions

Part Number Table

Description	Part Number
Silicon NPN Power Transistor	BD437

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