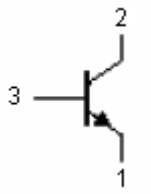
Silicon NPN Power Transistor

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°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°C	36	W
T_j	Junction temperature	-	150	°C
T_{stg}	Storage temperature	-	-65 to 150	°C

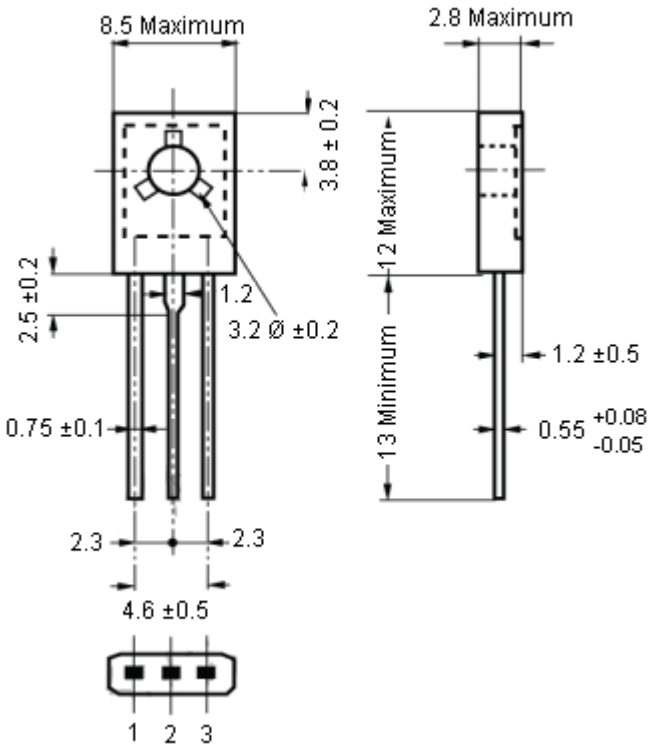
Characteristics (T_j = 25°C Unless Otherwise Specified)

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

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 A; V_{CE} = 1 V	85	-	140	-
h_{FE-3}	DC current gain	I_C = 2 A; V_{CE} = 1 V	40	-	-	-
f_T	Transition frequency	I_C = 250 mA; V_{CE} = 1 V	3	-	-	MHz

Package Outline



Dimensions : Millimetres

Fig. 2 Outline Dimensions

Part Number Table

Description	Part Number
Silicon NPN Power Transistor	BD437