

# Silicon NPN Power Transistor



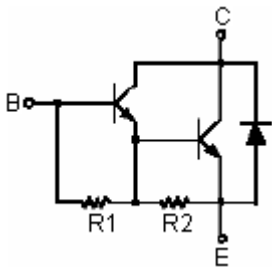
## Feature:

- Darlington

## 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	100	V
$V_{CEO}$	Collector - emitter voltage	Open base	100	V
$V_{EBO}$	Emitter - base voltage	Open collector	5	V
$I_C$	Collector current	-	4	A
$I_{CM}$	Collector current - peak	-	6	A
$I_B$	Base current	-	0.1	A
$P_C$	Collector power dissipation	$T_C = 25^\circ\text{C}$	40	W
$T_j$	Junction temperature	-	150	$^\circ\text{C}$
$T_{stg}$	Storage temperature	-	-65 to 150	$^\circ\text{C}$

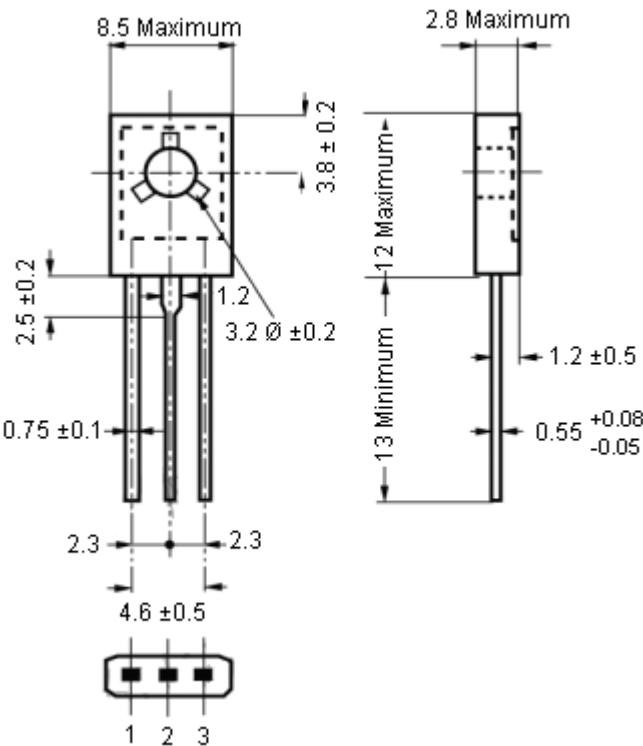
## Characteristics ( $T_j = 25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Unit
$V_{CEO(SUS)}$	Collector - emitter sustaining voltage	$I_C = 50\text{ mA}$ ; $I_B = 0$	100	-	-	V
$V_{CEsat}$	Collector - emitter saturation voltage	$I_C = 1.5\text{ A}$ ; $I_B = 30\text{ mA}$	-	-	2.5	V
$V_{BE(ON)}$	Base - emitter voltage	$I_C = 1.5\text{ A}$ ; $V_{CE} = 3\text{ V}$	-	-	2.5	V
$I_{CBO}$	Collector cut-off current	$V_{CB} = 100\text{ V}$ ; $I_E = 0$	-	-	0.2	mA
$I_{CEO}$	Collector cut-off current	$V_{CE} = 100\text{ V}$ ; $V_{BE} = 0$	-	-	0.5	mA
$I_{EBO}$	Emitter cut-off current	$V_{EB} = 5\text{ V}$ ; $I_C = 0$	-	-	2	mA
$h_{FE}$	DC current gain	$I_C = 1.5\text{ A}$ ; $V_{CE} = 3\text{ V}$	750	-	-	-

# Silicon NPN Power Transistor



## Package Outline



Dimensions : Millimetres

Fig. 2 Outline Dimensions

## Part Number Table

Description	Part Number
Silicon NPN Darlington Power Transistor	BD681

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