

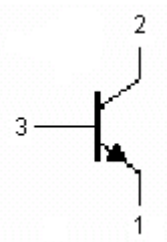
Silicon PNP Power Transistor



Application:

Intended for use in power linear and switching applications

Fig. 1 Simplified Outline (TO-220C) 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	-	-15	A
I_B	Base current	-	-5	A
P_C	Collector power dissipation	$T_C \leq 25^{\circ}\text{C}$	90	W
T_j	Junction temperature	-	150	$^{\circ}\text{C}$
T_{stg}	Storage temperature	-	-65 to 150	$^{\circ}\text{C}$

Thermal Characteristics

Symbol	Parameter	Maximum	Unit
$R_{th\ j-c}$	Thermal resistance junction to case	1.4	$^{\circ}\text{C/W}$

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

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Unit
$V_{CEO\ (SUS)}$	Collector - emitter sustaining voltage	$I_C = -0.1\ \text{A}; I_B = 0$	-100	-	-	V
$V_{CEsat-1}$	Collector - emitter saturation voltage	$I_C = -5\ \text{A}; I_B = 0.5\ \text{A}$	-	-	-1	V
$V_{CEsat-2}$	Collector - emitter saturation voltage	$I_C = -10\ \text{A}; I_B = -2.5\ \text{A}$	-	-	-3	V



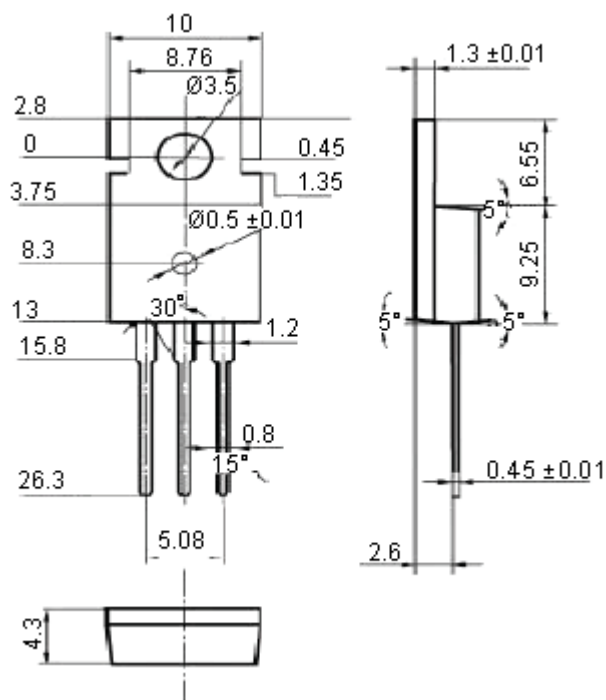
Silicon PNP Power Transistor



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

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Unit
V_{BEsat}	Base - emitter saturation voltage	$I_C = -10\text{ A}$; $I_B = -2.5\text{ A}$	-	-	-2.5	V
V_{BE}	Base - emitter voltage	$I_C = -5\text{ A}$; $V_{CE} = -4\text{ V}$	-	-	-1.5	V
I_{CBO}	Collector cut-off current	$V_{CB} = -100\text{ V}$; $I_E = 0$ $T_C = 150^\circ\text{C}$	-	-	-0.5 -5	mA
I_{CEO}	Collector cut-off current	$V_{CE} = -50\text{ V}$; $I_B = 0$	-	-	-1	mA
I_{EBO}	Emitter cut-off current	$V_{EB} = -5\text{ V}$; $I_C = 0$	-	-	-1	mA
h_{FE-1}	DC current gain	$I_C = -0.5\text{ A}$; $V_{CE} = -4\text{ V}$	40	-	250	-
h_{FE-2}	DC current gain	$I_C = -5\text{ A}$; $V_{CE} = -4\text{ V}$	15	-	150	-
h_{FE-3}	DC current gain	$I_C = -10\text{ A}$; $V_{CE} = -4\text{ V}$	5	-	-	-
f_T	Transition frequency	$I_C = -0.5\text{ A}$; $V_{CE} = -4\text{ V}$	3	-	-	MHz

Package Outline



Dimensions : Millimetres

Fig. 2 Outline Dimensions (Unindicated Tolerance : $\pm 0.1\text{ mm}$)

Silicon PNP Power Transistor



Figure.3 $h_{FE}-I_C$

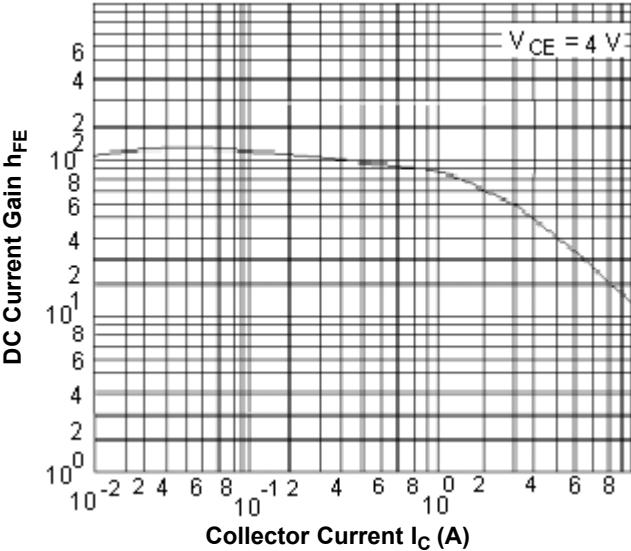


Figure.4 $V_{CE(sat)}-I_C$

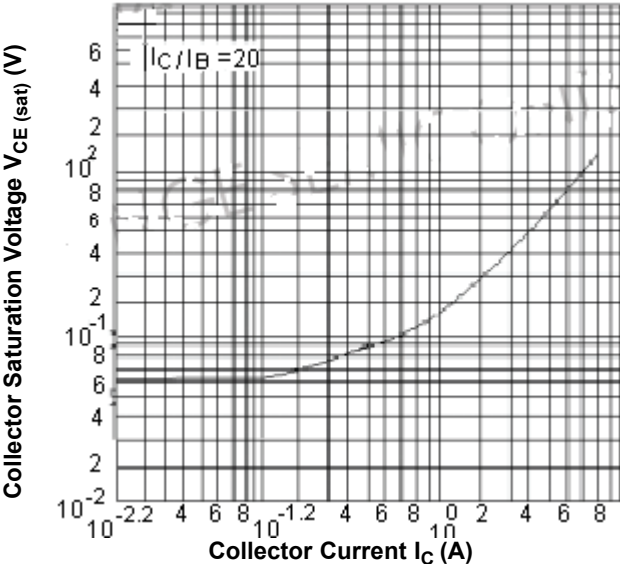
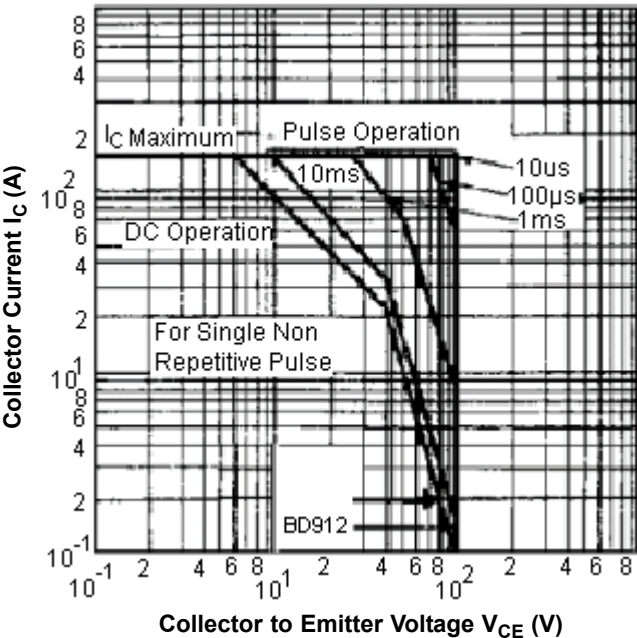


Figure.5 Safe Operating Area



Part Number Table

Description	Part Number
Silicon PNP Power Transistor	BD912

Important Notice : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2011.

