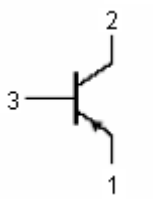
Silicon PNP Power Transistor

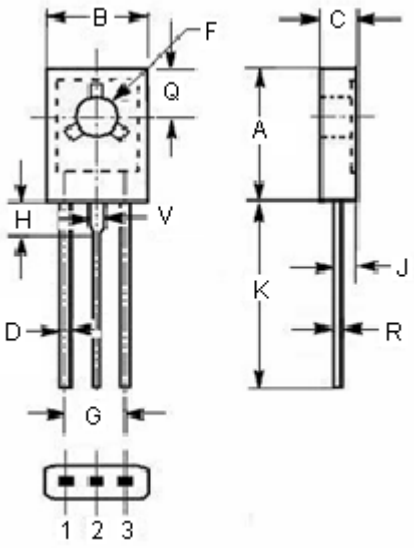
Features:

- DC current gain : h_{FE} = 40 (Minimum) at I_C = -0.15 A
- Collector - emitter sustaining voltage : $V_{CEO\ (SUS)}$ = 80 V (Minimum)



Pin 1. Emitter
2. Collector
3. Base

TO-126



Dimensions	mm	
	Minimum	Maximum
A	10.7	10.9
B	7.7	7.9
C	2.6	2.8
D	0.66	0.86
F	3.1	3.3
G	4.48	4.68
H	2	2.2
J	1.35	1.55
K	16.1	16.3
Q	3.7	3.9
R	0.4	0.6
V	1.17	1.37

Dimensions : Millimetres

Absolute Maximum Ratings (T_a = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector - base voltage	-100	V
V_{CEO}	Collector - emitter voltage	-80	V
V_{EBO}	Emitter - base voltage	-5	V

Absolute Maximum Ratings (T_a = 25°C)

Symbol	Parameter	Value	Unit
I_C	Collector current - continuous	-2	A
I_B	Base current - continuous	-1	A
P_C	Collector power dissipation at T_C = 25°C	25	W
T_J	Junction temperature	150	°C
T_{stg}	Storage temperature range	-55 to 150	°C

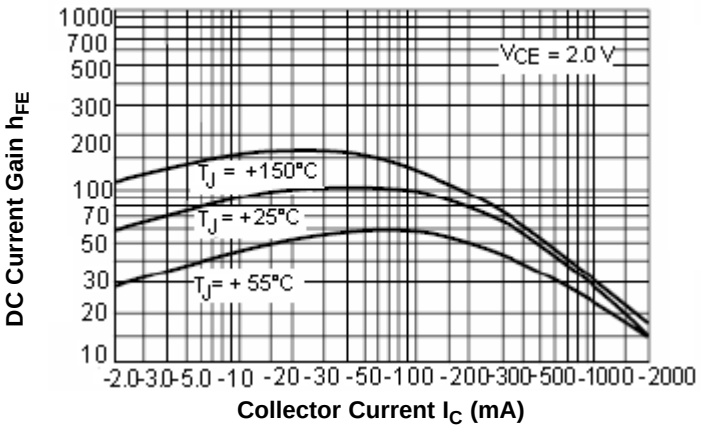
Thermal Characteristics

Symbol	Parameter	Maximum	Unit
$R_{th\ j\text{-}c}$	Thermal resistance, junction to case	5	°C/W

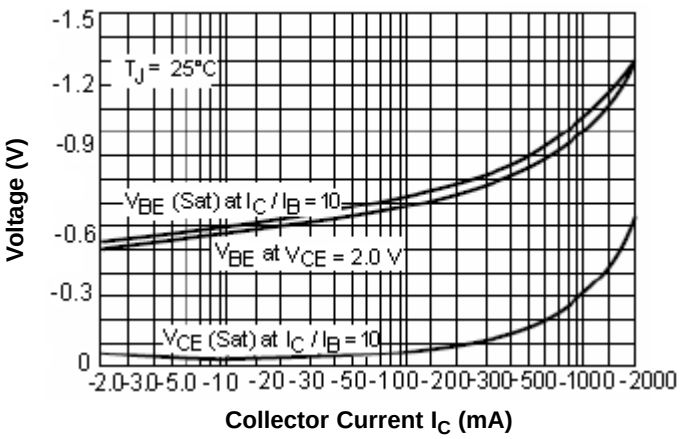
Electrical Characteristics (T_C = 25°C Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Maximum	Typical	Unit
$V_{CEO\ (SUS)}$	Collector - emitter sustaining voltage	I_C = -100 mA; I_B = 0	-80	-	-	V
$V_{CE\ (sat)}$	Collector - emitter saturation voltage	I_C = -1 A; I_B = -0.1 A	-	-0.6	-	V
$V_{BE\ (on)}$	Base - emitter on voltage	I_C = -1 A; V_{CE} = -2 V	-	-1.3	-	V
I_{CBO}	Collector cut off current	V_{CB} = -100 V; I_E = 0	-	-100	-	µA
I_{EBO}	Emitter cut off current	V_{EB} = -5 V; I_C = 0	-	-1	-	mA
$h_{FE\text{-}1}$	DC current gain	I_C = -150 mA; V_{CE} = -2 V	40	-	-	-
$h_{FE\text{-}2}$	DC current gain	I_C = -1 A; V_{CE} = -2 V	25	-	-	-
f_T	Current - gain - bandwidth product	I_C = -250 mA; V_{CE} = -10 V, f_{test} = 1 MHz	3	-	-	MHz

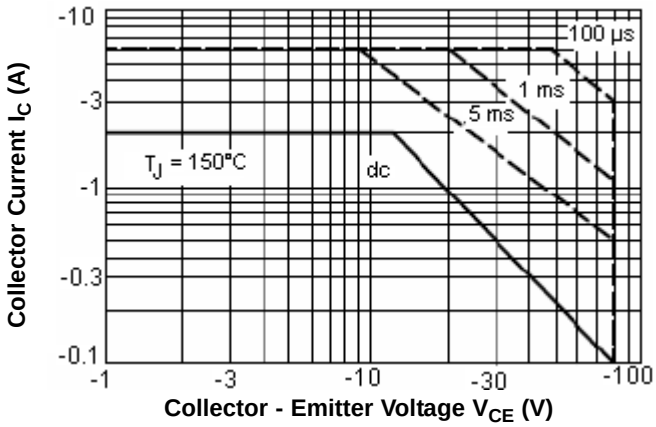
h_{FE} - I_C Characteristics



"On" Voltages



Safe Operating Area



Part Number Table

Description	Part Number
Silicon PNP Power Transistor	BD238