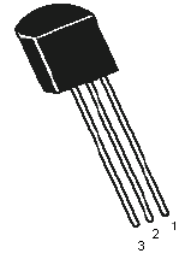


# General Purpose Transistor



## Pin Configuration:

1. Emitter
2. Base
3. Collector

## Description:

General purpose NPN silicon planar epitaxial transistors, best suited for use in driver stages of audio amplifiers, low noise input stages of tape recorders. Hi-Fi amplifiers, signal processing circuits of television receivers.

## Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Collector-Emitter Voltage	$V_{CEO}$	45	V
Collector-Emitter Voltage	$V_{CES}$	50	
Emitter-Base Voltage	$V_{EBO}$	6	
Collector Current Continuous	$I_C$	100	mA
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate Above $25^\circ\text{C}$	$P_D$	350 2.8	mW mW/ $^\circ\text{C}$
Total Device Dissipation at $T_c = 25^\circ\text{C}$ Derate Above $25^\circ\text{C}$		1 8	W mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_j, T_{stg}$	-55 to + 150	$^\circ\text{C}$

## Thermal Resistance

Junction to Ambient	$R_{th(j-a)}$	375	$^\circ\text{C/W}$
Junction to Case	$R_{th(j-c)}$	125	

# General Purpose Transistor

## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ unless otherwise specified)

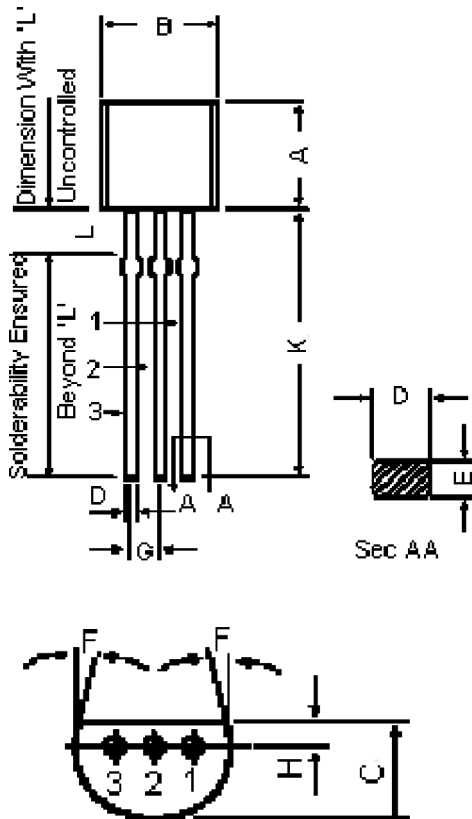
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Collector Emitter Voltage	$V_{CEO}$	$I_C = 2\text{mA}, I_B = 0$	45	-	-	V
Emitter Base Voltage	$V_{EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	6	-	-	
Collector Cut off Current	$I_{CES}$	$V_{CE} = 50\text{V}, V_{BE} = 0$ $V_{CE} = 50\text{V}, V_{BE} = 0,$ $T_a = 125^\circ\text{C}$	-	-	15 4	nA $\mu\text{A}$
DC Current Gain	$h_{FE}$	$I_C = 2\text{mA}, V_{CE} = 50\text{V}$	200	290	460	-
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$ $I_C = 100\text{mA}, I_B = 5\text{mA}^*$	-	0.07 0.2	0.2 0.6	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$ $I_C = 100\text{mA}, I_B = 0.5\text{mA}^*$	-	0.6	0.83 1.05	
Base Emitter On Voltage	$V_{BE(on)}$	$I_C = 100\mu\text{A}, V_{CE} = 5\text{V}$ $I_C = 2\text{mA}, V_{CE} = 5\text{V}$ $I_C = 100\text{mA}, V_{CE} = 5\text{V}^*$	0.55	0.5 0.62 0.83	0.7	

## Dynamic Characteristics

Transition Frequency	$f_T$	$I_C = 0.5\text{mA}, V_{CE} = 3\text{V}$ $f = 100\text{MHz}$ $I_C = 10\text{mA}, V_{CE} = 5\text{V}$ $f = 100\text{MHz}$	- 150	100 200	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	-	-	4.5	pF
Emitter Input Capacitance	$C_{ib}$	$V_{EB} = 0.5\text{V}, I_E = 0$ $f = 1\text{MHz}$	-	8		
Noise Figure	NF	$V_{CE} = 5\text{V}, I_C = 2\text{mA}$ $R_s = 2\text{k}\Omega, f = 1\text{kHz}$ $F = 200\text{Hz}$	-	2	10	dB

\*Pulse Condition: Pulse Width 300 $\mu\text{s}$ , Duty Cycle 2%.

# General Purpose Transistor



Dimensions	Min.	Max.
A	4.32	5.33
B	4.45	5.2
C	3.18	4.19
D	0.41	0.55
E	0.35	0.5
F	5°	
G	1.14	1.4
H	1.14	1.53
K	12.7	-
L	1.982	2.082

Dimensions : Millimetres

## Pin Configuration:

1. Emitter
2. Base
3. Collector

## Part Number Table

Description	Part Number
Transistor, NPN, TO-92	BC237B

**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 2012.