

BC237B



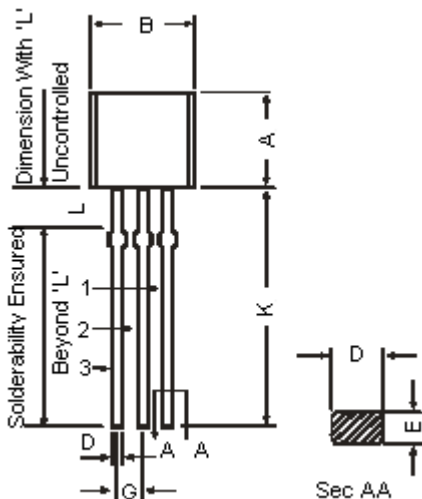
General Purpose Transistor NPN



General Description:

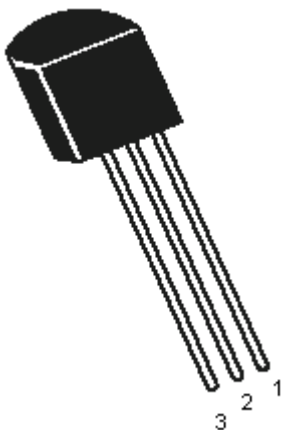
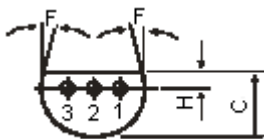
- General Purpose NPN Silicon Planar Epitaxial Transistors, Best suited for use in driver stages of audio amplifiers, low noise input stages of tape recorders. Hi-Fi amplifiers, signal processing circuits of television receivers.

TO-92 Plastic Package



Dimensions	Minimum	Maximum
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5°	
G	1.14	1.40
H	1.14	1.53
K	12.70	-
L	1.982	2.082

Dimensions : Millimetres



Pin Configuration

1. Emitter
2. Base
3. Collector

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Parameter	Symbol	BC237B	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°C	P_D	350 2.8	mW mW/ $^\circ\text{C}$
Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°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	

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

Parameter	Symbol	Test Condition	Minimum	Typical	Maximum	Units
Collector Emitter Voltage	V _{CEO}	I _C = 2mA, I _B = 0	45	-	-	V
Emitter Base Voltage	V _{EBO}	I _E = 100μA, I _C = 0	6	-	-	
Collector Cutoff Current	I _{CES}	V _{CE} = 50V, V _{BE} = 0 V _{CE} = 50V, V _{BE} = 0, T _a = 125°C	-	-	15 4	nA μA
DC Current Gain	h _{FE}	I _C = 2mA, V _{CE} = 5V	200	290	460	-
Collector Emitter Saturation Voltage	V _{CE(sat)}	I _C = 10mA, I _B = 0.5mA I _C = 100mA, I _B = 5mA*	-	0.07 0.2	0.2 0.6	V
Base Emitter Saturation Voltage	V _{BE(sat)}	I _C = 10mA, I _B = 0.5mA I _C = 100mA, I _B = 0.5mA*	-	0.6	0.83 1.05	
Base Emitter On Voltage	V _{BE(on)}	I _C = 100μA, V _{CE} = 5V I _C = 2mA, V _{CE} = 5V I _C = 100mA, V _{CE} = 5V	0.55	0.5 0.62 0.83	0.7	
Dynamic Characteristics						
Transition Frequency	f _T	I _C = 0.5mA, V _{CE} = 3V f = 100MHz I _C = 10mA, V _{CE} = 5V f = 100MHz	- 150	100 200	-	MHz
Collector Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0 f = 1MHz	-	-	4.50	pF

*Pulse Condition: Pulse Width 300 μs , Duty Cycle 2%.

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

Parameter	Symbol	Test Condition	Minimum	Typical	Maximum	Units
Dynamic Characteristics						
Emitter Input Capacitance	C_{ib}	$V_{EB} = 0.5\text{V}, I_E = 0$ $f = 1\text{MHz}$	-	8.0	-	pF
Noise Figure	NF	$V_{CE} = 5\text{V}, I_C = 0.2\text{mA}$, $R_s = 2\text{k}\Omega, f = 1\text{KHz}$ $F = 200\text{Hz}$	-	2	10	dB

Specifications

V_{CEO} (V)	V_{CBO} maximum (V)	I_C (A)	h_{FE} minimum at $I_C = 2\text{mA}$	f_T minimum (MHz)	P_{tot} (mW)	Package	Part Number
45	50	0.1	200	200	350	TO-92	BC237B

Dimensions : Millimetres (Unless Specified)



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Notes:

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