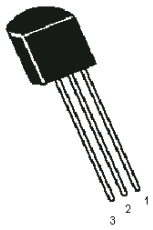
General Purpose Transistor



Pin Configuration:
1. Emitter
2. Base
3. Collector

Features:

- PNP Silicon Planar Epitaxial Transistor
- Especially 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

Parameters	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	45	V
Collector-Emitter Voltage	V_{CES}	50	
Collector-Base Voltage	V_{CBO}		
Emitter-Base Voltage	V_{EBO}	5	
Collector Current Continuous Peak	I_C I_{CM}	100 200	mA
Base Current Peak	I_{BM}	200	
Emitter Current Peak	I_{EM}		
Power Dissipation at T_a = 25°C Derate above 25°C	P_{TA}	500 4	mW mW/°C
Storage Temperature	T_{stg}	-65 to +150	°C
Junction Temperature	T_j	150	

Thermal Resistance

Junction to Ambient	$R_{th\ (j-a)}$	250	°C/W

Electrical Characteristics (T_a = 25°C unless otherwise specified)

Parameters	Symbol	Test Condition	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	I_C = 2mA, I_B = 0	>45	V
Collector-Base Voltage	V_{CBO}	I_C = 100µA, I_E = 0	>50	
Emitter-Base Voltage	V_{EBO}	I_E = 100µA, I_C = 0	>5	
Collector-Cut off Current	I_{CBO} I_{CES}	V_{CB} = 30V, I_E = 0 T_j = 150°C V_{CB} = 30V, I_E = 0 V_{CE} = 80V, V_{BE} = 0	<15 <5 <15	nA µA nA
Collector-Cut off Current	I_{CES}	T_J = 125°C V_{CE} = 80V, V_{BE} = 0	<4	µA
DC Current Gain	h_{FE}	I_C = 10µA, V_{CE} = 5V **BC557B** **BC557B** I_C = 100mA, V_{CE} = 5V **BC557B**	Typical 150 200 - 450 Typical 200	-
Collector Emitter Saturation Voltage	$V_{CE\ (Sat)}$	I_C = 10mA, I_B = 0.5mA I_C = 100mA, I_B = 5mA	<0.30 <0.65	V
Base Emitter Saturation Voltage	$V_{BE\ (sat)}$	I_C = 10mA, I_B = 0.5mA I_C = 100mA, I_B = 5mA	Typical 0.70 Typical 0.90	
Base Emitter on Voltage	$V_{BE\ (on)}$	I_C = 2mA, V_{CE} = 5V I_C = 10mA, V_{CE} = 5V	0.55 - 0.70 <0.82	

Dynamic Characteristics

Transition Frequency	f_T	I_C = 10mA, V_{CE} = 5V f = 100MHz	Typical 150	MHz
Collector output Capacitance	C_{cbo}	V_{CB} = 10V, f = 1MHz	<6	pF
Emitter Input Capacitance	C_{ib}	V_{EB} = 0.5V, f = 1MHz	Typical 9	
Noise Figure	NF	I_C = 0.2mA, V_{CE} = 5V R_S = 2kΩ, f = 1kHz B = 200Hz	<10	dB
Small Signal Current Gain	h_{fe}	I_C = 2mA, V_{CE} = 5V - **BC557B**	Typical 330	-
Input Impedance	h_{ie}	I_C = 2mA, V_{CE} = 5V - **BC557B**	3.2 - 8.5	KΩ
Voltage Feedback Ratio	h_{re}	I_C = 2mA, V_{CE} = 5V - **BC557B**	Typical 2	$\times 10^{-4}$
Out put Admittance	h_{oe}	I_C = 2mA, V_{CE} = 5V - **BC557B**	<60	umhos

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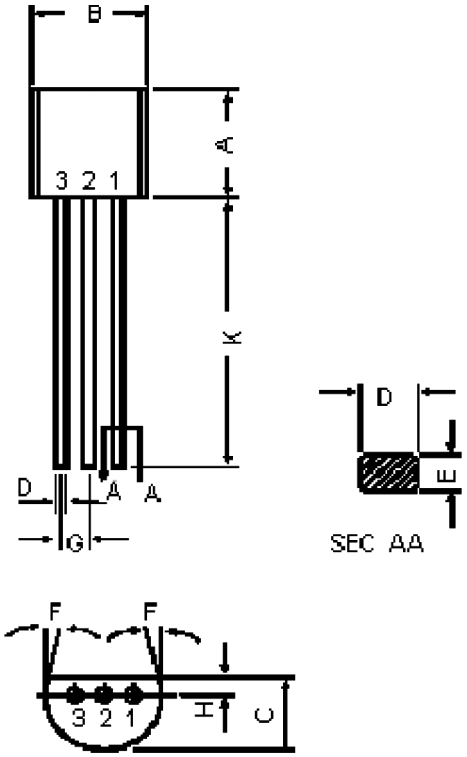

Dimensions	Min.	Max.
A	4.32	5.33
B	4.45	5.2
C	3.18	4.19
D	0.41	0.55
E	0.35	0.5
F	5°	
G	1.14	1.4
H		1.53
K	12.7	-

Dimensions : Millimetres

Pin Configuration:

1. Emitter
2. Base
3. Collector

Part Number Table

Description	Part Number
Transistor, PNP, TO-92	BC557B