

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 $T_a = 25^\circ\text{C}$ Derate above 25°C	P_{TA}	500 4	mW mW/ $^\circ\text{C}$
Storage Temperature	T_{stg}	-65 to +150	$^\circ\text{C}$
Junction Temperature	T_j	150	

Thermal Resistance

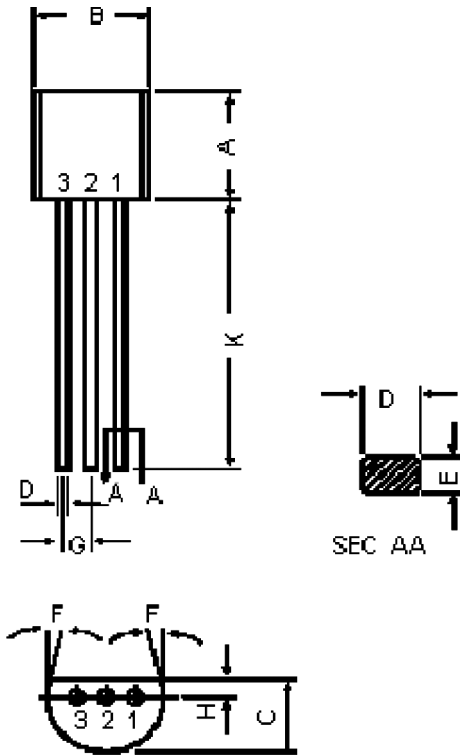
Junction to Ambient	$R_{th(j-a)}$	250	$^\circ\text{C}/\text{W}$
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Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless otherwise specified)

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

Dynamic Characteristics

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



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

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2. Base
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Part Number Table

Description	Part Number
Transistor, PNP, TO-92	BC557B

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