

BC557, 557B



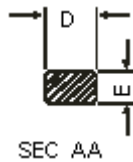
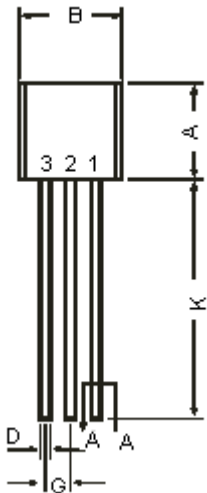
General Purpose Transistor



Features:

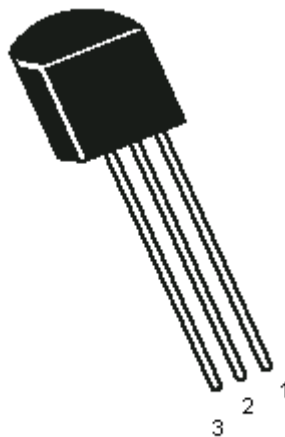
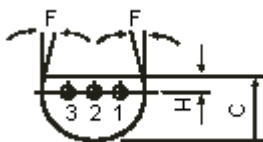
- PNP Silicon Planar Epitaxial Transistors.
- Especially Suited For use in Driver Stages of Audio Amplifiers, Low Noise Input Stages of Tape Recorders, HI-FI Amplifiers, Signal Processing Circuits of Television Receivers.

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		1.53
K	12.70	-

Dimensions : Millimetres



Pin Configuration

1. Emitter
2. Base
3. Collector



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Absolute Maximum Ratings

Parameter	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}	5.0	
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 4.0	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	$^\circ\text{C/W}$

Electrical Characteristics ($T_a = 25^\circ\text{C}$ Unless Otherwise Specified)

Parameter	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}	$I_E = 100\mu\text{A}, I_C = 0$	>5.0	
Collector-Cut off Current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$	<15	nA
	I_{CES}	$T_j = 150^\circ\text{C}$ $V_{CB} = 30\text{V}, I_E = 0$ $V_{CE} = 80\text{V}, V_{BE} = 0$	<5.0	μA
			<15	nA
Collector-Cut off Current	I_{CES}	$T_j = 125^\circ\text{C}$ $V_{CE} = 80\text{V}, V_{BE} = 0$	<4.0	μA
DC Current Gain	h_{FE}	$I_C = 10\mu\text{A}, V_{CE} = 5\text{V}$ BC557B $I_C = 2\text{mA}, V_{CE} = 5\text{V}$ BC557 $I_C = 100\text{mA}, V_{CE} = 5\text{V}$ BC557B	Typical 150 75 - 800 200 - 450 Typical 200	-

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

Parameter	Symbol	Test Condition	Rating	Unit
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}	$V_{CB} = 10V, f = 1MHz$	<6.0	pF
Emitter Input Capacitance	C_{ib}	$V_{EB} = 0.5V, f = 1MHz$	Typical 9.0	
Noise Figure	NF	$I_C = 0.2mA, V_{CE} = 5V$ $R_s = 2k\Omega, f = 1kHz$ $B = 200Hz$	<10	dB
Small Signal Current Gain	h_{fe}	$I_C = 2mA, V_{CE} = 5V$ - 557B	Typical 330	-
Input Impedance	h_{ie}	$I_C = 2mA, V_{CE} = 5V$ - 557B	3.2 - 8.5	K Ω
Voltage Feedback Ratio	h_{re}	$I_C = 2mA, V_{CE} = 5V$ - 557B	Typical 2.0	$\times 10^{-4}$
Out put Admittance	h_{oe}	$I_C = 2mA, V_{CE} = 5V$ - 557B	<60	umhos

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Specifications

V_{CE0} maximum (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	75	150	500	TO-92	BC557
				75	625		BC557B

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Notes:

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