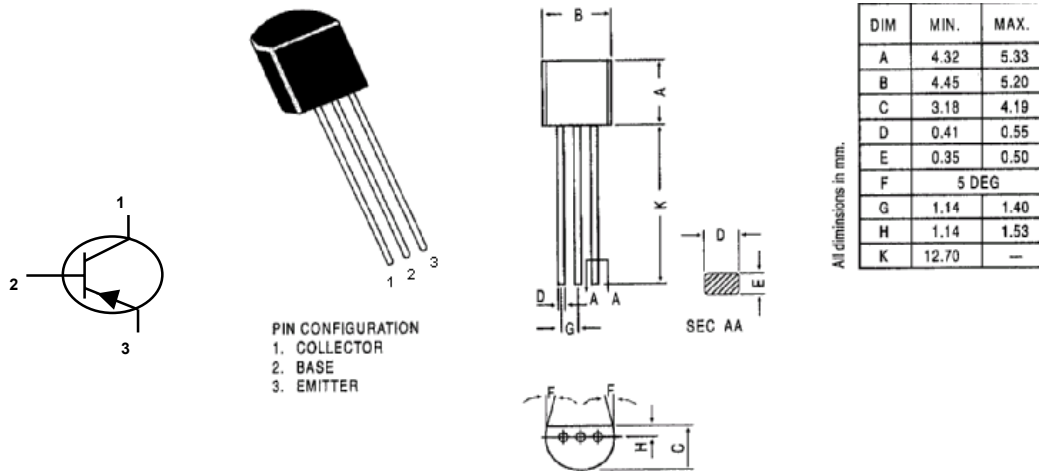


## PNP Silicon Planar Epitaxial Transistors



**TO-92 SMD Package**

### Absolute Maximum Ratings (Ta = 25 °C unless specified otherwise)

DESCRIPTION	SYMBOL	BC556	BC557	BC558	UNITS
Collector Emitter Voltage	$V_{CEO}$	65	45	30	V
Collector Emmitter Voltage	$V_{CES}$	80	50	30	V
Collector Base Voltage	$V_{CBO}$	80	50	30	V
Emitter Base Voltage	$V_{EBO}$	5	5	5	V
Collector Current Continuous	$I_C$		100		mA
Peak	$I_{CM}$		200		
Emitter Current - Peak	$I_{EM}$		200		mA
Base Current - Peak	$I_{BM}$		200		mA
Total power dissipation up to $T_{amb} = 25\text{ °C}$	$P_{tot}$		500		mW
Storage Temperature	$T_{stg}$		-55 to +150		°C
Junction Temperature	$T_j$		150		°C

### Thermal Resistance

From junction to ambient	$R_{th(j-a)}$		250		°C/W
--------------------------	---------------	--	-----	--	------

**Electrical Characteristics** (Ta=25 °C unless otherwise specified)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Voltage  <b>BC556</b> <b>BC557</b> <b>BC558</b>	$V_{CEO}$	$I_C = 2mA, I_B = 0$	65 45 30			V
Collector Base Voltage  <b>BC556</b> <b>BC557</b> <b>BC558</b>	$V_{CBO}$	$I_C = 100\mu A, I_E = 0$	80 50 30			V
Emitter Base Voltage	$V_{EBO}$	$I_E = 100\mu A, I_C = 0$	5			V
Collector Cut off Current	$I_{CBO}$	$V_{CB} = 30V, I_E = 0$			15	nA
		$V_{CB} = 30V, I_E = 0, T_j = 150^\circ C$			4	uA
Collector Cut off Current  <b>BC556</b> <b>BC557</b> <b>BC558</b> <b>BC556</b> <b>BC557</b> <b>BC558</b>	$I_{CES}$	$V_{CE} = 80V$		0.20	15	nA
		$V_{CE} = 50V$		0.20	15	nA
		$V_{CE} = 30V$		0.20	15	nA
		$V_{CE} = 80V, T_j = 125^\circ C$			4	uA
		$V_{CE} = 50V, T_j = 125^\circ C$			4	uA
		$V_{CE} = 30V, T_j = 125^\circ C$			4	uA
Base Emitter On Voltage	$V_{BE(on)}$	$I_C = 2mA, V_{CE} = 5V$	0.55	0.66	0.70	V
		$I_C = 10mA, V_{CE} = 5V$			0.82	
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	$I_C = 10mA, I_B = 0.5mA$		0.09	0.30	V
		$I_C = 100mA, I_B = 5mA$		0.25	0.65	
Base Emitter Saturation Voltage	$V_{BE(Sat)}$	$I_C = 10mA, I_B = 0.5mA$		0.70		V
		$I_C = 100mA, I_B = 5mA$		0.90		
DC Current Gain	$h_{FE}$	$V_{CE} = 5V, I_C = 10\mu A$				
		<b>A</b>			90	
		<b>B</b>			150	
		<b>C</b>			270	
		$V_{CE} = 5V, I_C = 2mA$				
		<b>BC556</b>		75		475
		<b>BC557/BC558</b>		75		800
		<b>A</b>		110	180	220
		<b>B</b>		200	290	450
		<b>C</b>		420	500	800
		$V_{CE} = 5V, I_C = 100mA$				
		<b>A</b>			120	
	<b>B</b>			200		
	<b>C</b>			400		

**Electrical Characteristics** (Ta=25 °C unless otherwise specified)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
<i>DYNAMICS CHARACTERISTICS</i>						
Transition Frequency	$f_T$	$I_C = 10\text{mA}, V_{CE} = 5\text{V}, f = 100\text{MHz}$		150		MHz
Collector output Capacitance	$C_{cbo}$	$V_{CB} = 10\text{V}, f = 1\text{MHz}$			6	pF
Noise Figure	NF	$V_{CE} = 5\text{V}, I_C = 0.2\text{mA}$ $R_S = 2\text{k ohm}, f = 1\text{kHz}, B = 200\text{Hz}$		2	10	dB
Small Signal Current Gain	$h_{fe}$	$V_{CE} = 5\text{V}, I_C = 2\text{mA}, f = 1\text{kHz}$ A B C		220 330 600		
Input Impedance	$h_{ie}$	$V_{CE} = 5\text{V}, I_C = 2\text{mA}, f = 1\text{kHz}$ A B C	1.6 3.2 6.0	2.7 4.5 8.7	4.5 8.5 15	k ohm
Voltage Feedback	$h_{re}$	$V_{CE} = 5\text{V}, I_C = 2\text{mA}, f = 1\text{kHz}$ A B C		1.5 2.0 3.0		x10
Output Admittance	$h_{oe}$	$V_{CE} = 5\text{V}, I_C = 2\text{mA}, f = 1\text{kHz}$ A B C		18 30 60	30 60 110	u MHO