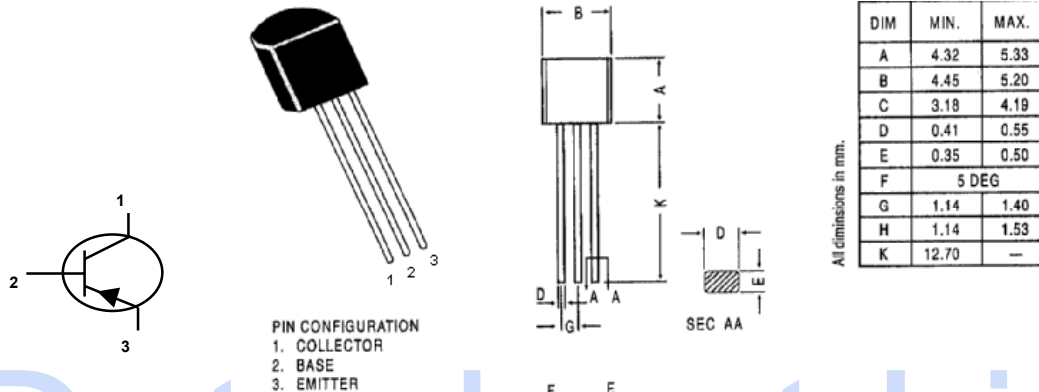


PNP Silicon Planar Epitaxial Transistors



Datashheet.Live

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		mA
Emitter Current - Peak	I_{EM}		200		mA
Base Current - Peak	I_{BM}		200		mA
Total power dissipation up to $T_{amb} = 25\text{ }^\circ\text{C}$	P_{tot}		500		mW
Storage Temperature	T_{stg}		-55 to +150		$^\circ\text{C}$
Junction Temperature	T_j		150		$^\circ\text{C}$

Thermal Resistance

From junction to ambient	$R_{th(j-a)}$	250	$^\circ\text{C/W}$
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Electrical Characteristics (Ta=25 °C unless otherwise specified)

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

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