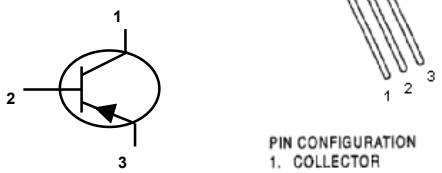
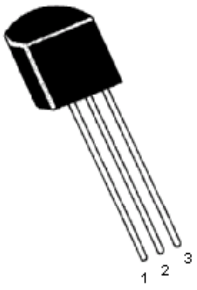
RECTRON
RECTIFIER SPECIALISTS

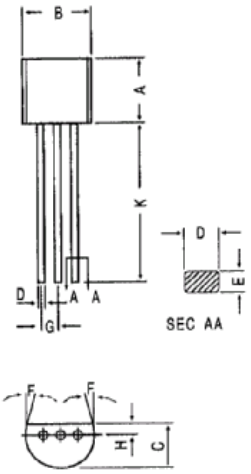
BC556,A,B,C
BC557,A,B,C
BC558,A,B,C

PNP Silicon Planar Epitaxial Transistors





PIN CONFIGURATION
1. COLLECTOR
2. BASE
3. EMITTER



All dimensions in mm.

DIM	MIN.	MAX.
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 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—

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 Peak	I_C I_{CM}		100 200		mA
Emitter Current - Peak	I_{EM}		200		mA
Base Current - Peak	I_{BM}		200		mA
Total power dissipation up to T_{amb} = 25 °C	P_{tot}		500		mW
Storge Temperature	Tstg		-55 to +150		°C
Junction Temperature	Tj		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	V_{CEO}	I_C = 2mA, I_B = 0				
BC556			65			V
BC557			45			
BC558			30			
Collector Base Voltage	V_{CBO}	I_C = 100uA, I_E = 0				
BC556			80			V
BC557			50			
BC558			30			
Emitter Base Voltage	V_{EBO}	I_E = 100uA, 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, Tj = 150°C			4	uA
Collector Cut off Current	I_{CES}					
BC556		V_{CE} = 80V		0.20	15	nA
BC557		V_{CE} = 50V		0.20	15	nA
BC558		V_{CE} = 30V		0.20	15	nA
BC556		V_{CE} = 80V, Tj = 125°C			4	uA
BC557		V_{CE} = 50V, Tj = 125°C			4	uA
BC558		V_{CE} = 30V, Tj = 125°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}	VCE = 5V, I_C = 10uA				
		A		90		
		B		150		
		C		270		
		VCE = 5V, I_C = 2mA				
		BC556	75		475	
		BC557/BC558	75		800	
		A	110	180	220	
		B	200	290	450	
		C	420	500	800	
		VCE = 5V, I_C = 100mA				
		A		120		
		B		200		
		C		400		

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

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