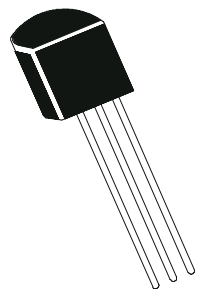


# PNP SILICON PLANAR EPITAXIAL TRANSISTORS



Boca Semiconductor Corp.  
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BC 556, A, B  
BC 557, 8, A, B, C  
TO-92  
EBC

## APPLICATION

PNP General Purpose Transistors, Especially Suited For Use in Driver Stages of Audio Amplifier, Low Noise Input Stages of Tape Recorders, HI-FI Amplifiers, Signal Processing Circuits of Television Receivers.

### ABSOLUTE MAXIMUM RATINGS(Ta=25 deg C unless otherwise specified)

DESCRIPTION	SYMBOL	BC556	BC557	BC558	UNITS
Collector -Emitter Voltage	VCEO	65	45	30	V
Collector -Emitter Voltage	VCES	80	50	30	V
Collector -Base Voltage	VCBO	80	50	30	V
Emitter -Base Voltage	VEBO		5.0		V
Collector Current Continuous	IC		100		mA
Peak	ICM		200		mA
Base Current -Peak	IBM		200		mA
Emitter Current- Peak	IEM		200		mA
Power Dissipation@ Ta=25 degC	PTA		500		mW
Derate Above 25 deg C			4.0		mW/deg C
Storage Temperature	Tstg		-65 to +150		deg C
Junction Temperature	Tj		150		deg C

### THERMAL RESISTANCE

Junction to Ambient	Rth(j-a)		250		deg C/W
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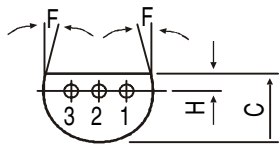
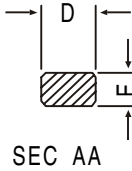
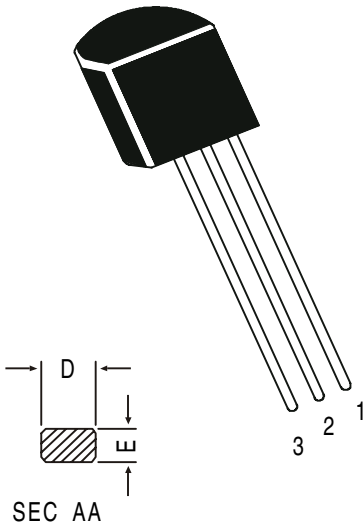
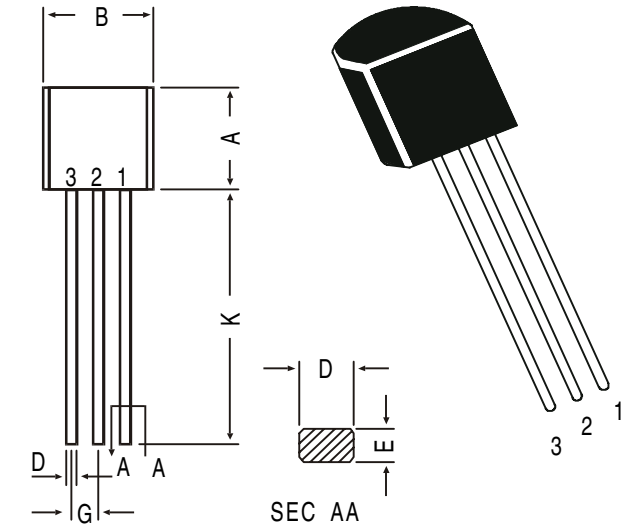
### ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)

DESCRIPTION	SYMBOL	TEST CONDITION	BC556	BC557	BC558	UNITS
Collector -Emitter Voltage	VCEO	IC=2mA, IB=0	>65	>45	>30	V
Collector -Base Voltage	VCBO	IC=100uA, IE=0	>80	>50	>30	V
Emitter-Base Voltage	VEBO	IE=100uA, IC=0 ALL		>5.0		V
Collector-Cut off Current	ICBO	VCB=30V, IE=0 ALL		<15		nA
		Tj=150 deg C				
		VCB=30V, IE=0 ALL		<5.0		uA
	ICES	VCE=80V, VBE=0	<15	-	-	nA
		VCE=50V, VBE=0	-	<15	-	nA
		VCE=30V, VBE=0	-	-	<15	nA
		TJ=125 deg C				
Collector-Cut off Current	ICES	VCE=80V, VBE=0	<4.0	-	-	uA
		VCE=50V, VBE=0	-	<4.0	-	uA
		VCE=30V, VBE=0	-	-	<4.0	uA

ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)			BC556-558		
DESCRIPTION	SYMBOL	TEST CONDITION		VALUE	UNITS
DC Current Gain	hFE	IC=10uA, VCE=5V	A	typ90	
			B	typ150	
			C	typ270	
		IC=2mA, VCE=5V	BC556	75-475	
			BC557,8	75-800	
			A	110-220	
			B	200-450	
			C	420-800	
			IC=100mA, VCE=5V	A	typ120
B	typ200				
C	typ400				
Collector Emitter Saturation Voltage	VCE(Sat)	IC=10mA, IB=0.5mA		<0.30	V
		IC=100mA, IB=5mA		<0.65	V
Base Emitter Saturation Voltage	VBE(Sat)	IC=10mA, IB=0.5mA		typ0.70	V
		IC=100mA, IB=5mA		typ0.90	V
Base Emitter on Voltage	VBE(on)	IC=2mA, VCE=5V		0.55-0.70	V
		IC=10mA, VCE=5V		<0.82	V
<b><u>DYNAMIC CHARACTERISTICS</u></b>					
Transistors Frequency	ft	IC=10mA, VCE=5V f=100MHz		typ150	MHz
Collector out-put Capacitance	Ccbo	VCB=10V, f=1MHz		<6.0	pF
Emitter Input Capacitance	Cib	VEB=0.5V, f=1MHz		typ9.0	pF
Noise Figure	NF	IC=0.2mA, VCE=5V Rs=2kohm, f=1kHz B=200Hz		<10	dB
Small Signal Current Gain	hfe	ALL f=1KHz IC=2mA, VCE=5V	A	typ220	
			B	typ330	
			C	typ600	
			A	1.6-4.5	khoms
Input Impedance	hie	IC=2mA, VCE=5V	B	3.2-8.5	
			C	6.0-15	
			A	typ1.5	X`10-4
Voltage Feedback Ratio	hre	IC=2mA, VCE=5V	B	typ2.0	
			C	typ3.0	
			A	<30	umhos
Out put Adimttance	hoe	IC=2mA, VCE=5V	B	<60	
			C	<110	
			A	<30	umhos

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# TO-92 Plastic Package



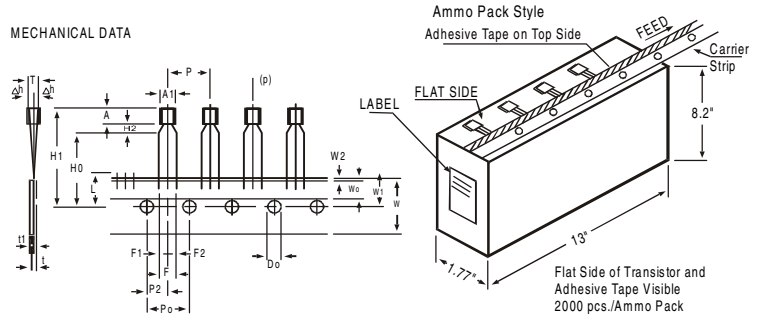
## PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR

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 Transistors on Tape and Ammo Pack



### All dimensions in mm unless specified otherwise

ITEM	SYMBOL	SPECIFICATION				REMARKS
		MIN.	NOM.	MAX.	TOL.	
BODY WIDTH	A1	4.0		4.8		
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		±1	
FEED HOLE PITCH	Po		12.7		±0.3	
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
DISTANCE BETWEEN OUTER LEADS	F	5.08			+0.6	TO BE MEASURED AT BOTTOM OF CLINCH
COMPONENT ALIGNMENT	Δh	0		1	-0.2	AT TOP OF BODY
TAPE WIDTH	W		18		±0.5	
HOLD-DOWN TAPE WIDTH	Wo		6		±0.2	
HOLE POSITION	W1		9		+0.7	
					-0.5	
HOLD-DOWN TAPE POSITION	W2		0.5		±0.2	
LEAD WIRE CLINCH HEIGHT	Ho		16		±0.5	
COMPONENT HEIGHT	H1			23.25		
LENGTH OF SNIPPED LEADS	L			11.0		
FEED HOLE DIAMETER	Do		4		±0.2	t1 0.3 - 0.6
TOTAL TAPE THICKNESS	t			1.2		
LEAD - TO - LEAD DISTANCE F1,	F2		2.54		+0.4	
					-0.1	
CLINCH HEIGHT	H2			3		
PULL - OUT FORCE	(P)	6N				

### NOTES

1. MAXIMUM ALIGNMENT DEVIATION BETWEEN LEADS NOT TO BE GREATER THAN 0.2 mm.
2. MAXIMUM NON-CUMULATIVE VARIATION BETWEEN TAPE FEED HOLES SHALL NOT EXCEED 1 mm IN 20 PITCHES.
3. HOLDDOWN TAPE NOT TO EXCEED BEYOND THE EDGE(S) OF CARRIER TAPE AND THERE SHALL BE NO EXPOSURE OF ADHESIVE.
4. NO MORE THAN 3 CONSECUTIVE MISSING COMPONENTS ARE PERMITTED.
5. A TAPE TRAILER, HAVING AT LEAST THREE FEED HOLES ARE REQUIRED AFTER THE LAST COMPONENT.
6. SPLICES SHALL NOT INTERFERE WITH THE SPROCKET FEED HOLES.

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