



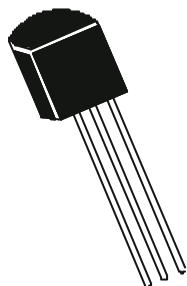
Continental Device India Limited

An IS/ISO 9002 and IECQ Certified Manufacturer



## PNP SILICON PLANAR EPITAXIAL TRANSISTORS

BC556, A, B, C  
 BC557, A, B, C  
 BC558, A, B, C  
 TO-92 Plastic Package



## General Purpose Transistors

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

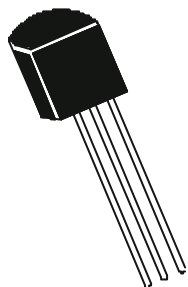
DESCRIPTION	SYMBOL	BC556	BC557	BC558	UNITS
Collector Emitter Voltage	$V_{CEO}$	65	45	30	V
Collector Emitter Voltage	$V_{CES}$	80	50	30	V
Collector Base Voltage	$V_{CBO}$	80	50	30	V
Emitter Base Voltage	$V_{EBO}$	5	5	5	V
Collector Current Continuous	$I_C$		100		mA
Peak	$I_{CM}$		200		mA
Base Current - Peak	$I_{BM}$		200		mA
Emitter Current - Peak	$I_{EM}$		200		mA
Collector Power Dissipation	$P_{TA}$		500		mW
<b>Ta =25 deg C</b>					
Operating And Storage Junction	$T_j, T_{stg}$		-55 to +150		°C
Temperature Range					
<b>THERMAL RESISTANCE</b>					
Junction to ambient	$R_{th(j-a)}$		250		°C/W

## ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Voltage						
	BC556	$V_{CEO}$	$I_C=2mA, I_B=0$	65		V
	BC557			45		V
	BC558			30		V

## PNP SILICON PLANAR EPITAXIAL TRANSISTORS

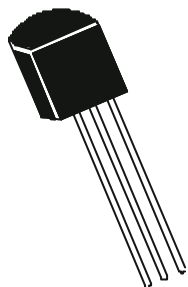
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DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
<b>Collector Base Voltage</b>						
BC556	$V_{CBO}$	$I_C=100\mu A, I_E=0$	80			V
BC557			50			V
BC558			30			V
<b>Emitter Base Voltage</b>	$V_{EBO}$	$I_E=100\mu A, I_C=0$	5			V
<b>Collector Cut off Current</b>	$I_{CBO}$	$V_{CB}=30V, I_E=0$			15	nA
		$V_{CB}=30V, I_E=0$			4	$\mu A$
		$T_j=150 \text{ deg C}$				
<b>Collector Cut off Current</b>						
BC556	$I_{CES}$	$V_{CE}=80V$		0.2	15	nA
BC557		$V_{CE}=50V$		0.2	15	nA
BC558		$V_{CE}=30V$		0.2	15	nA
BC556		$V_{CE}=80V, T_j=125^\circ \text{ C}$			4	$\mu A$
BC557		$V_{CE}=50V, T_j=125^\circ \text{ C}$			4	$\mu A$
BC558		$V_{CE}=30V, T_j=125^\circ \text{ C}$			4	$\mu A$
<b>DC Current Gain</b>						
A	$h_{FE}$	$V_{CE}=5V, I_C=10\mu A$		90		
B				150		
C				270		
BC556	$h_{FE}$	$V_{CE}=5V, I_C=2mA$	75		475	
BC557, BC558			75		800	
A			110	180	220	
B			200	290	450	
C			420	500	800	
A	$h_{FE}$	$V_{CE}=5V, I_C=100mA$		120		
B				200		
C				400		

## PNP SILICON PLANAR EPITAXIAL TRANSISTORS

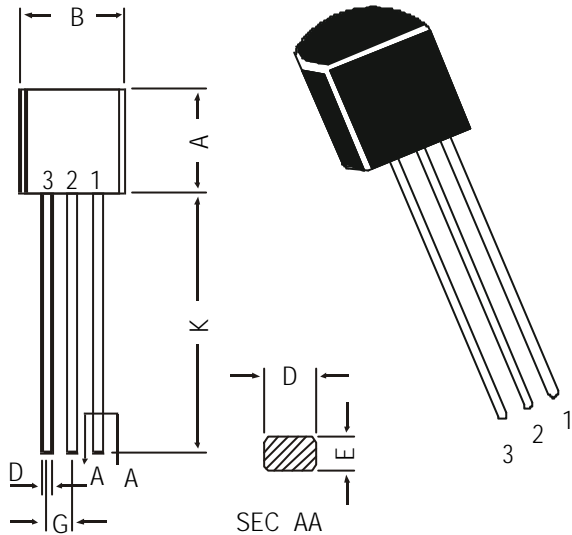
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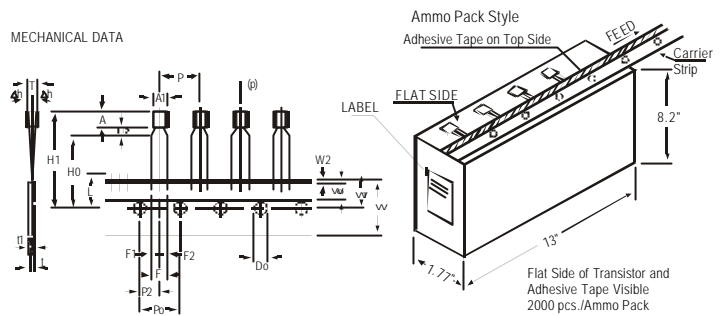
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS	
<b>Collector Emitter Saturation Voltage</b>							
	$V_{CE(sat)}$	$I_C=10mA, I_B=0.5mA$		0.09	0.3	V	
		$I_C=100mA, I_B=5mA$		0.25	0.65	V	
<b>Base Emitter Saturation Voltage</b>	$V_{BE(sat)}$	$I_C=10mA, I_B=0.5mA$		0.70		V	
		$I_C=100mA, I_B=5mA$		0.90		V	
<b>Base Emitter On Voltage</b>	$V_{BE(on)}$	$I_C=2mA, V_{CE}=5V$	0.55	0.66	0.70	V	
		$I_C=10mA, V_{CE}=5V$			0.82	V	
<b>DYNAMICS CHARACTERISTICS</b>	<b>SYMBOL</b>	<b>TEST CONDITION</b>	<b>MIN</b>	<b>TYP</b>	<b>MAX</b>	<b>UNITS</b>	
<b>Transition Frequency</b>	$f_T$	$I_C=10mA, V_{CE}=5V$ $f=100MHz$		150		MHz	
<b>Collector output Capacitance</b>	$C_{cbo}$	$V_{CB}=10V, f=1MHz$			6	pF	
<b>Noise Figure</b>	NF	$V_{CE}=5V, I_C=0.2mA$ $R_S=2K\Omega, f=1KHz,$ $B=200Hz$		2	10	dB	
<b>Small Signal Current Gain</b>							
	<b>A</b>	$h_{fe}$		220			
	<b>B</b>			330			
	<b>C</b>			600			
<b>Input Impedance</b>							
	<b>A</b>	$h_{ie}$	$V_{CE}=5V, I_C=2mA$	1.6	2.7	4.5	k $\Omega$
	<b>B</b>		$f=1KHz$	3.2	4.5	8.5	
	<b>C</b>			6.0	8.7	15	
<b>Voltage Feedback</b>							
	<b>A</b>	$h_{re}$	$V_{CE}=5V, I_C=2mA$		1.5		x10
	<b>B</b>		$f=1KHz$		2.0		
	<b>C</b>				3.0		
<b>Output Admittance</b>							
	<b>A</b>	$h_{oe}$	$V_{CE}=5V, I_C=2mA$		18	30	$\mu$ MHO
	<b>B</b>		$f=1KHz$		30	60	
	<b>C</b>				60	110	

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**TO-92 Plastic Package**



**TO-92 Transistors on Tape and Ammo Pack**



All dimensions in mm unless specified otherwise

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	—

All dimensions in mm.

**PIN CONFIGURATION**

1. COLLECTOR
2. BASE
3. EMITTER

ITEM	SYMBOL	SPECIFICATION			REMARKS
		MIN.	NOM.	MAX.	
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
DISTANCE BETWEEN OUTER LEADS	F	5.08			+0.6 -0.2
COMPONENT ALIGNMENT	$\Delta h$	0	1		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
TOTAL TAPE THICKNESS	t		1.2		1) 0.3 - 0.6
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.

**Packing Detail**

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX	

**Notes**

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C-120 Naraina Industrial Area, New Delhi 110 028, India.  
Telephone + 91-11-579 6150 Fax + 91-11-579 9569, 579 5290  
e-mail sales@cdil.com www.cdil.com