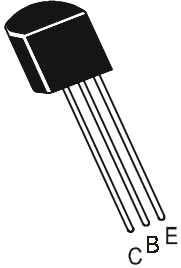


PNP SILICON PLANAR EPITAXIAL TRANSISTORS

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



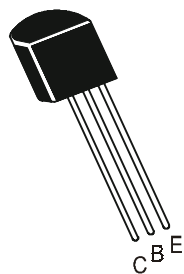
General Purpose Transistors

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

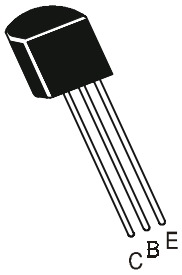
DESCRIPTION	SYMBOL	BC556	BC557	BC558	UNITS
Collector Emitter Voltage	V_{CEO}	65	45	30	V
Collector Emitter Voltage	V_{CES}	80	50	30	V
Collector Base Voltage	V_{CBO}	80	50	30	V
Emitter Base Voltage	V_{EBO}	5	5	5	V
Collector Current Continuous	I_C		100		mA
Peak	I_{CM}		200		mA
Base Current - Peak	I_{BM}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



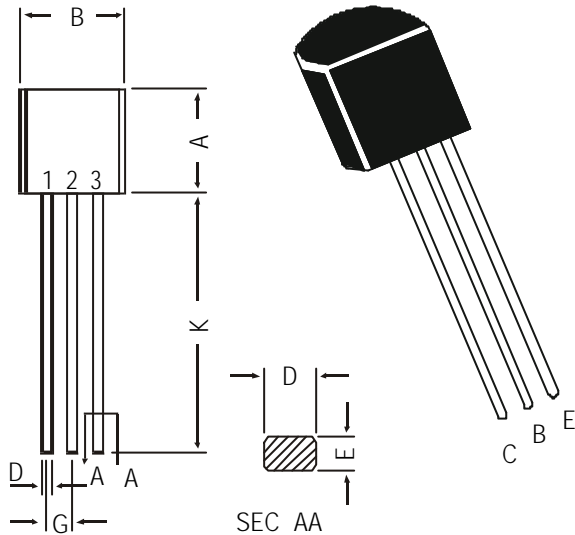
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Base Voltage						
BC556	V_{CBO}	$I_C=100\mu A, I_E=0$	80			V
BC557			50			V
BC558			30			V
Emitter Base Voltage	V_{EBO}	$I_E=100\mu A, I_C=0$	5			V
Collector Cut off Current	I_{CBO}	$V_{CB}=30V, I_E = 0$			15	nA
		$V_{CB}=30V, I_E = 0$			4	μA
		$T_j= 150 \text{ deg C}$				
Collector Cut off Current						
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	μA
BC557		$V_{CE}=50V, T_j=125^\circ \text{ C}$			4	μA
BC558		$V_{CE}=30V, T_j=125^\circ \text{ C}$			4	μA
DC Current Gain						
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		



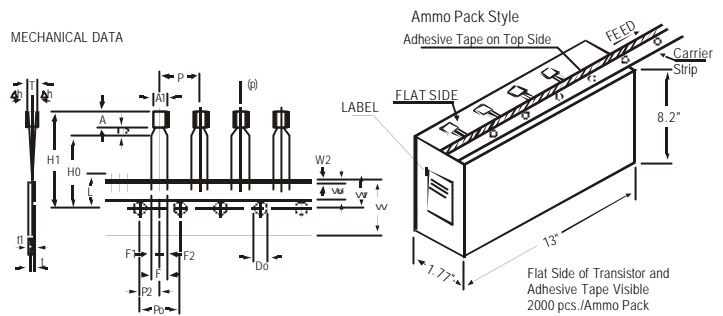
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS	
Collector Emitter Saturation Voltage							
	$V_{CE(sat)}$	$I_C=10mA, I_B=0.5mA$		0.09	0.3	V	
		$I_C=100mA, I_B=5mA$		0.25	0.65	V	
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=0.5mA$		0.70		V	
		$I_C=100mA, I_B=5mA$		0.90		V	
Base Emitter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

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

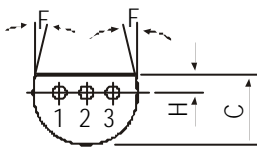
TO-92 Plastic Package



TO-92 Transistors on Tape and Ammo Pack



All dimensions in mm unless specified otherwise



- 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	—

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	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F		5.08		+0.6 -0.2	
COMPONENT ALIGNMENT	Δh		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

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

Disclaimer

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