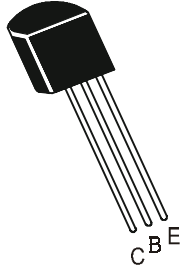


**NPN SILICON PLANAR EPITAXIAL TRANSISTORS**

**BC549, A, B, C**  
**BC550, A, B, C**



**TO-92**  
**Plastic Package**

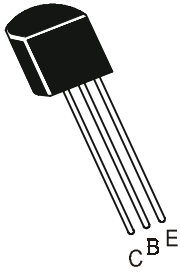
**General Purpose Transistors, Best Suited For Use in Driver Stages of Audio Amplifiers, of Tape Recorders. Low Noise Input stages , Hi-Fi Amplifiers, Signal Processing Circuits of Television Receivers.**

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

DESCRIPTION	SYMBOL	BC549	BC550	UNITS
Collector Emitter Voltage	$V_{CEO}$	30	45	V
Collector Base Voltage	$V_{CBO}$	30	50	V
Emitter Base Voltage	$V_{EBO}$	5	5	V
Collector Current Continuous	$I_C$	100		mA
Power Dissipation @ Ta=25°C	$P_D$	625		mW
Derate Above 25°C		5		mW/°C
Power Dissipation @ Tc=25°C	$P_D$	1.5		W
Derate Above 25°C		12		mW/°C
Operating And Storage Junction	$T_j, T_{stg}$	-55 to +150		°C
<b>Temperature Range</b>				
<b>THERMAL RESISTANCE</b>				
Junction to ambient	$R_{th(j-a)}$	200		°C/W
Junction to case	$R_{th(j-c)}$	83.3		°C/W

# NPN SILICON PLANAR EPITAXIAL TRANSISTORS

**BC549, A, B, C**  
**BC550, A, B, C**



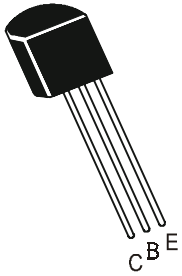
**TO-92**  
**Plastic Package**

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
<b>Collector Emitter Voltage</b>						
	<b>BC549</b>	$V_{CEO}$	$I_C=10mA, I_B=0$	30		V
	<b>BC550</b>			45		V
<b>Collector Base Voltage</b>						
	<b>BC549</b>	$V_{CBO}$	$I_C=10\mu A, I_E=0$	30		V
	<b>BC550</b>			50		V
<b>Emitter Base Voltage</b>						
		$V_{EBO}$	$I_E=10\mu A, I_C=0$	5		V
<b>Collector Cut off Current</b>						
		$I_{CBO}$	$V_{CB}=30V, I_E=0$			15 nA
			$V_{CB}=30V, I_E=0,$ $T_a=+125^\circ C$			5 $\mu A$
<b>Emitter Cut off Current</b>						
		$I_{EBO}$	$V_{EB}=4V, I_C=0$			15 nA
<b>DC Current Gain</b>						
	<b>B</b>	$h_{FE}$	$V_{CE}=5V, I_C=10\mu A$	100	150	
	<b>C</b>			100	270	
	<b>BC549, BC550</b>		$V_{CE}=5V, I_C=2mA$	110		800
	<b>A</b>			110		220
	<b>B</b>			200	290	450
	<b>C</b>			420	500	800
<b>Collector Emitter Saturation Voltage</b>						
		$V_{CE(sat)}$	$I_C=10mA, I_B=0.5mA$		0.075	0.25 V
			$I_C=10mA, I_B=see\ note\ 1$		0.30	0.6 V
			$I_C=100mA, I_B=5mA^*$		0.25	0.6 V
<b>Base Emitter Saturation Voltage</b>						
		$V_{BE(sat)}$	$I_C=100mA, I_B=5mA^*$		1.1	V
<b>Base Emitter On Voltage</b>						
		$V_{BE(on)}$	$I_C=10\mu A, V_{CE}=5V$		0.52	V
			$I_C=100\mu A, V_{CE}=5V$		0.55	V
			$I_C=2mA, V_{CE}=5V$	0.55	0.62	0.70 V

**NPN SILICON PLANAR EPITAXIAL TRANSISTORS**

**BC549, A, B, C  
BC550, A, B, C**



**TO-92  
Plastic Package**

**ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Specified Otherwise)**

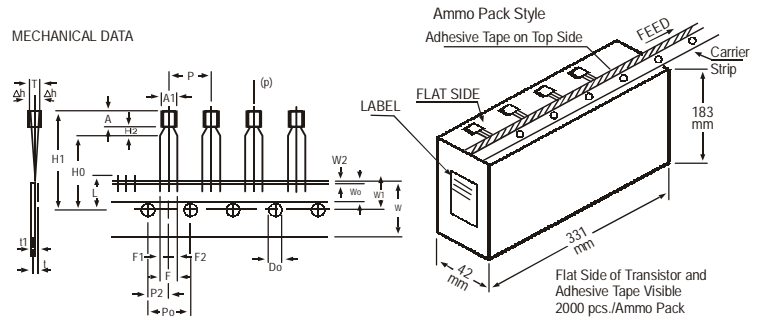
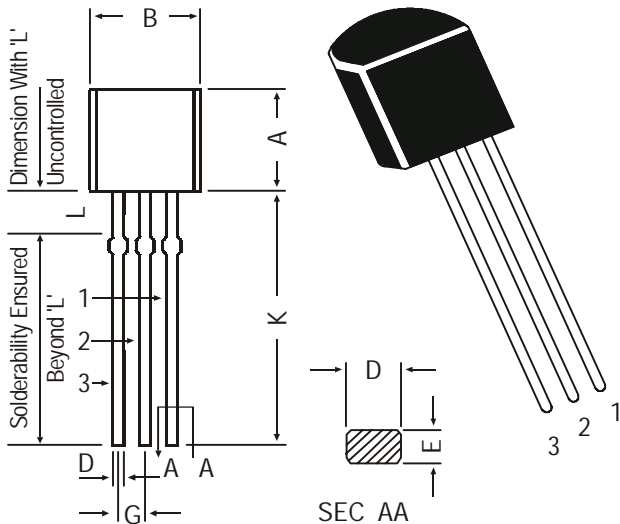
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
<b>DYNAMICS CHARACTERISTICS</b>						
Transition Frequency	$f_T$	$I_C=10mA, V_{CE}=5V$ $f=100MHz$		250		MHz
Collector Output Capacitance	$C_{cbo}$	$I_E=0, V_{CE}=10V$ $f=1MHz$		2.50		pF
Noise Figure	$NF_1^*$	$V_{CE}=5V, I_C=200\mu A$ $R_S=2K\Omega, f=30Hz-15Kz$		0.6	2.5	dB
	$NF_2$	$V_{CE}=5V, I_C=200\mu A$ $R_S=100K\Omega, f=1.0KHz$			10	dB
<b>Small Signal Current Gain</b>						
	<b>BC549, BC550</b>	$ h_{fe} $	$V_{CE}=5V, I_C=2mA$	125		900
	<b>B</b>		$f=1KHz$	240	330	500
	<b>C</b>			450	600	900

**NOTE 1 :  $I_B$  is value for which  $I_C = 11mA$  at  $V_{CE} = 1V$**

**\*Pulse Condition: = Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .**

TO-92 Plastic Package

TO-92 Transistors on Tape and Ammo Pack



All dimensions in mm unless specified otherwise

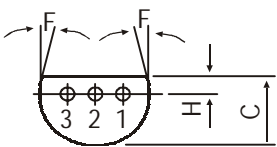
ITEM	SYMBOL	SPECIFICATION				REMARKS
		MIN.	NOM.	MAX.	TOL.	
BODY WIDTH	A1	4.0		4.8		CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH TO BE MEASURED AT BOTTOM OF CLINCH
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		±1	
FEED HOLE PITCH	Po		12.7		±0.3	
FEED HOLE CENTRE TO COMPONENT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

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	—
L	1.982	2.082

All diminsions in mm.



PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-92 Bulk	1K/polybag	200 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2K	17" x 15" x 13.5"	32K	12.5 kgs

### **Disclaimer**

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