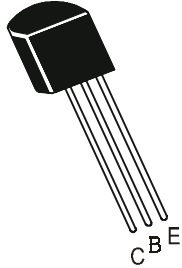


NPN SILICON PLANAR EPITAXIAL TRANSISTORS

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



TO-92
Plastic Package

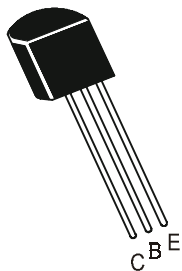
General Purpose Transistors, Best Suited For Use in Driver Stages of Audio Amplifiers, of Tape Recorders. Low Noise Input stages , Hi-Fi Amplifiers, Signal Processing Circuits of Television Receivers.

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
Temperature Range				
THERMAL RESISTANCE				
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



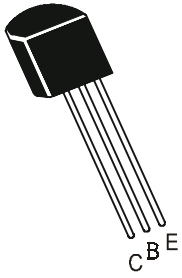
TO-92
Plastic Package

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

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

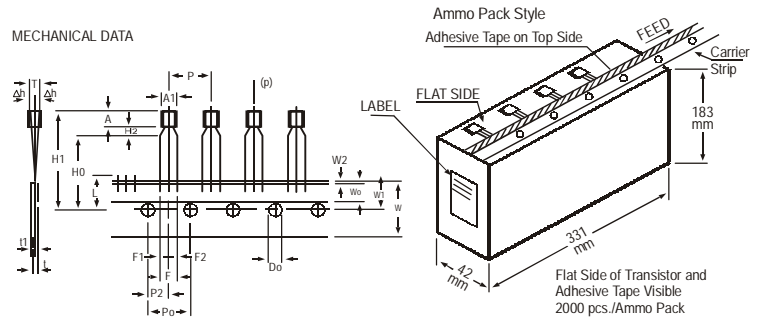
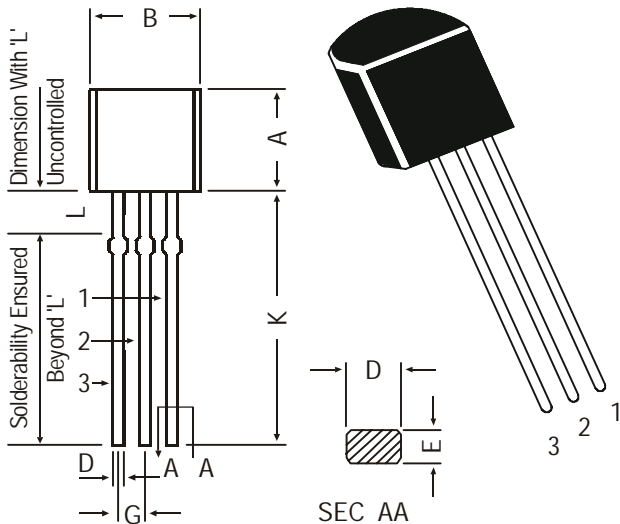
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
DYNAMICS CHARACTERISTICS						
Transition Frequency	f_T	$I_C=10\text{mA}, V_{CE}=5\text{V}$ $f=100\text{MHz}$		250		MHz
Collector Output Capacitance	C_{cbo}	$I_E=0, V_{CE}=10\text{V}$ $f=1\text{MHz}$		2.50		pF
Noise Figure	NF_1^*	$V_{CE}=5\text{V},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

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

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

TO-92 Plastic Package

TO-92 Transistors on Tape and Ammo Pack



All dimensions in mm unless specified otherwise

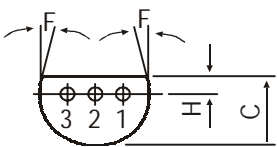
ITEM	SYMBOL	SPECIFICATION				REMARKS
		MIN.	NOM.	MAX.	TOL.	
BODY WIDTH	A1	4.0		4.8		CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH TO BE MEASURED AT BOTTOM OF CLINCH
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		±1	
FEED HOLE PITCH	Po		12.7		±0.3	
FEED HOLE CENTRE TO COMPONENT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

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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