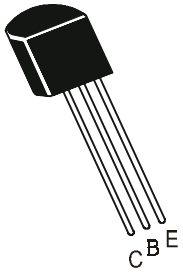
NPN SILICON PLANAR EPITAXIAL TRANSISTORS

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



TO-92
Plastic Package

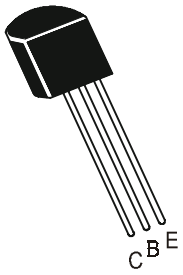
General Purpose Transistors, Best Suited For Use in Driver Stages of Audio Amplifiers, of Tape Recorders. Low Noise Input stages , Hi-Fi Amplifiers, Signal Processing Circuits of Television Receivers.

ABSOLUTE MAXIMUM RATINGS(Ta=25ºC 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=25ºC	P_D	625		mW
Derate Above 25ºC		5		mW/ºC
Power Dissipation @ Tc=25ºC	P_D	1.5		W
Derate Above 25ºC		12		mW/ºC
Operating And Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150		ºC
THERMAL RESISTANCE				
Junction to ambient	$R_{th(j-a)}$	200		ºC/W
Junction to case	$R_{th(j-c)}$	83.3		ºC/W

NPN SILICON PLANAR EPITAXIAL TRANSISTORS

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



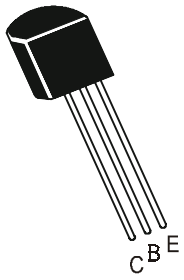
TO-92
Plastic Package

ELECTRICAL CHARACTERISTICS (Ta=25ºC 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=10µA,I_E=0	30			V
	BC550			50			V
Emitter Base Voltage		V_{EBO}	I_E=10µA, 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, Ta= +125ºC			5	µA
EmitterCut off Current		I_{EBO}	V_{EB}=4V, I_C = 0			15	nA
DC Current Gain							
	B	h_{FE}	V_{CE}=5V,I_C=10uA	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 note1		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=10µA,V_{CE}=5V		0.52		V
			I_C=100µA,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



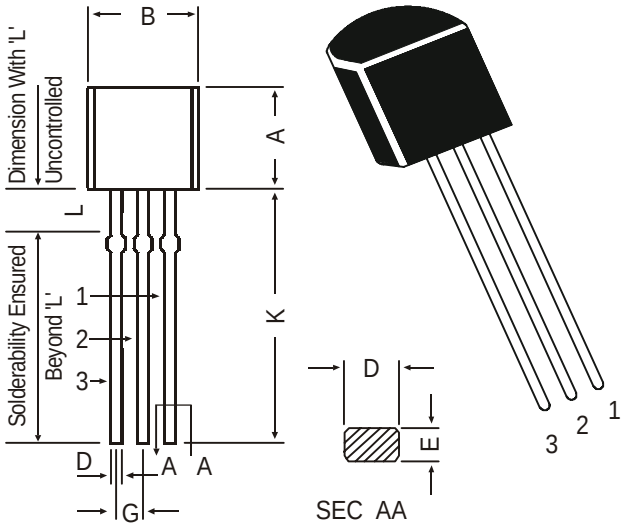
TO-92
Plastic Package

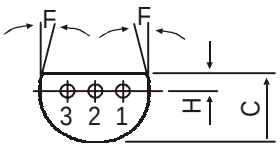
ELECTRICAL CHARACTERISTICS (Ta=25ºC Unless Specified Otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
DYNAMICS CHARACTERISTICS						
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=200µA R_S=2KΩ,f=30H_Z -15Kz		0.6	2.5	dB
	NF_2	V_{CE} =5V,I_C=200uA R_S=100KΩ,f=1.0KH_Z			10	dB
Small Signal Current Gain						
BC549, BC550	| h_{fe} |	V_{CE} =5V,I_C=2mA	125		900	
B		f=1KH_Z	240	330	500	
C			450	600	900	

NOTE 1 : I_B is value for which I_C = 11mA at V_{CE} =1V
***Pulse Condition: = Pulse Width ≤ 300us, Duty Cycle ≤ 2%.**

TO-92 Plastic Package



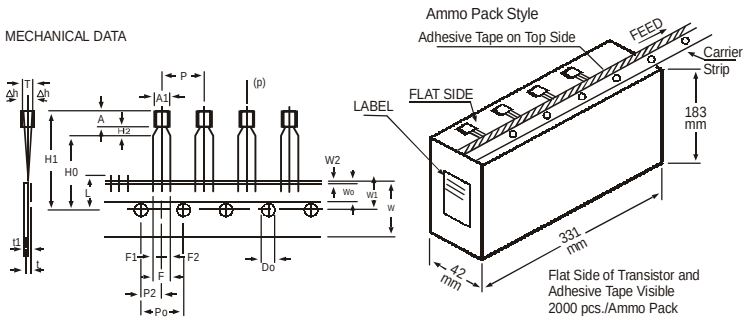


PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

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.

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	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	△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		t1 0.3 - 0.6
LEAD - TO - LEAD DISTANCEF1,	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		
	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

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