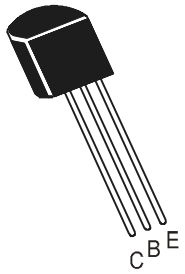
PNP SILICON PLANAR EPITAXIAL TRANSISTORS

BC 307, A, B, C
BC 308, A, B, C
BC 309, A, B, C



TO-92
Plastic Package

General Purpose Transistors Deisgned For Small Signal Amplification

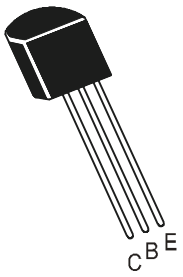
From DC To Low Radio Frequencies

ABSOLUTE MAXIMUM RATINGS (Ta=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	BC307	BC308	BC309	UNITS
Collector Emitter Voltage	V_{CEO}	45	25	25	V
Collector Base Voltage	V_{CBO}	50	30	30	V
Emitter Base Voltage	V_{EBO}	5	5	5	V
Collector Current Continuous	I_C		100		mA
Power Dissipation@ Ta=25ºC	P_D		350		mW
Derate Above 25ºC			2.8		mW/°C
Power Dissipation@ Tc=25ºC	P_D		1		W
Derate Above 25ºC			8		mW/°C
Operating And Storage Junction Temperature Range	T_j, T_{stg}		-55 to +150		°C
THERMAL RESISTANCE					
Junction to ambient	$R_{th(j-a)}$		357		°C/W
Junction to case	$R_{th(j-c)}$		125		°C/W

PNP SILICON PLANAR EPITAXIAL TRANSISTORS

BC 307, A, B, C
BC 308, A, B, C
BC 309, A, B, C



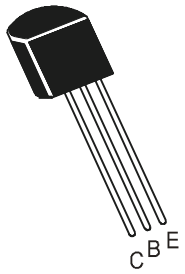
TO-92
Plastic Packa e

ELECTRICAL CHARACTERISTICS (Ta=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Breakdown Voltage	BV_{CEO}	I_C=2mA,I_B=0				
BC307			45			V
BC308, BC309			25			V
Emitter Base Breakdown Voltage	BV_{EBO}	I_E=100uA, I_C=0	5			V
Collector Emitter Leakage Current						
BC307	I_{CES}	V_{CES} =50V, V_{BE} =0			15	nA
BC308, BC309		V_{CES} =30V, V_{BE} =0			15	nA
BC307		V_{CES} =50V, V_{BE} =0, T_A =125ºC			4	µA
BC308, BC309		V_{CES} =30V, V_{BE} =0, T_A =125ºC			4	µA
DC Current Gain						
A	h_{FE}	I_C=10uA,V_{CE}=5V		90		
B				150		
C				270		
BC307, BC308, BC309		I_C=2mA,V_{CE}=5V	120		800	
A			120	170	220	
B			200	290	460	
C			420	500	800	
A		I_C=2mA,V_{CE}=5V*		120		
B				180		
C				300		
Collector Emitter Saturation Voltage	V_{CE}(sat)	I_C=10mA,I_B=0.5mA		0.10	0.3	V
		I_C=100mA,I_B=5mA		0.25		V
Base Emitter Saturation Voltage	V_{BE}(sat)	I_C=10mA,I_B=0.5mA		0.7		V
		I_C=100mA,I_B=5mA		1.0		V
Base Emitter On Voltage	V_{BE}(on)	I_C=2mA,V_{CE}=5V	0.55	0.62	0.7	V

SILICON PLANAR EPITAXIAL TRANSISTORS

BC 307, A, B, C
BC 308, A, B, C
BC 309, A, B, C



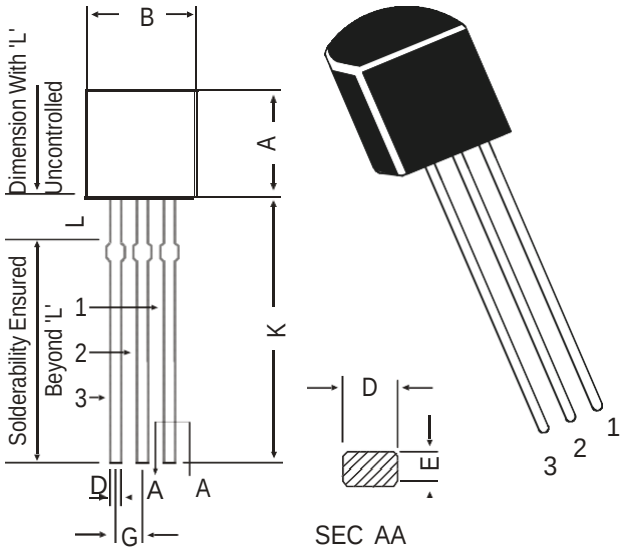
TO-92
Plastic Package

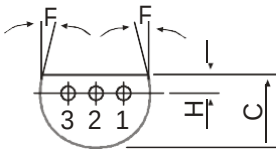
ELECTRICAL CHARACTERISTICS (Ta=25ºC unless specified otherwise)

DESCRIPTION		SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
DYNAMIC CHARACTERISTICS							
Transition Frequency		f_T	I_C=10mA, V_{CE}=5V				
	BC307		f=50MHz		280		MHz
	BC308				320		MHz
	BC309				360		MHz
Collector Base Capacitance		C_{cbo}	V_{CB}=10V, I_E=0			6	pF
Noise Figure			f=1MHz				
	BC 309	NF	I_C=0.2mA, V_{CE}=5V		2	4	dB
			Rg=2KΩ f=30Hz to 15KHz				
	BC307, BC308		f =1KHz, B=200Hz		2	10	dB
	BC309				2	4	dB
			R_S=2KΩ f=30Hz to 15KHz				

***Pulse Condition: Width ≤ 300μs, Duty Cycle ≤ 2%.**

TO-92 Plastic Package



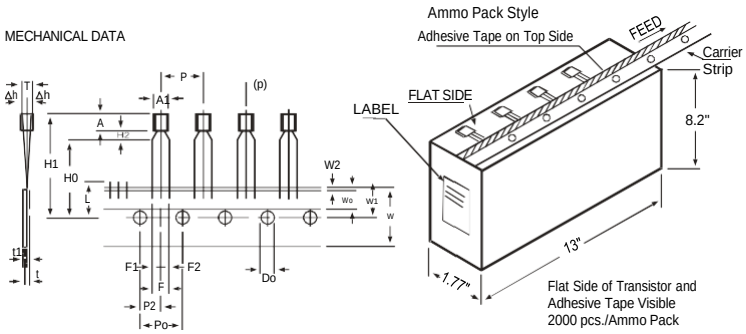


PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

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 MIN.	NOM.	MAX.	TOL .	REMARKS
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

Disclaimer

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