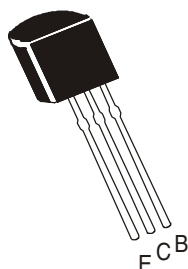


## NPN SILICON EPITAXIAL TRANSISTOR

**CSC1959**  
**TO-92**  
**BCE**



### Audio Frequency Low Power Amplifier Applications.

#### ABSOLUTE MAXIMUM RATINGS(Ta=25deg C )

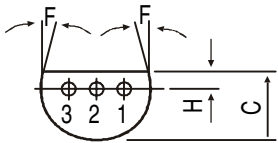
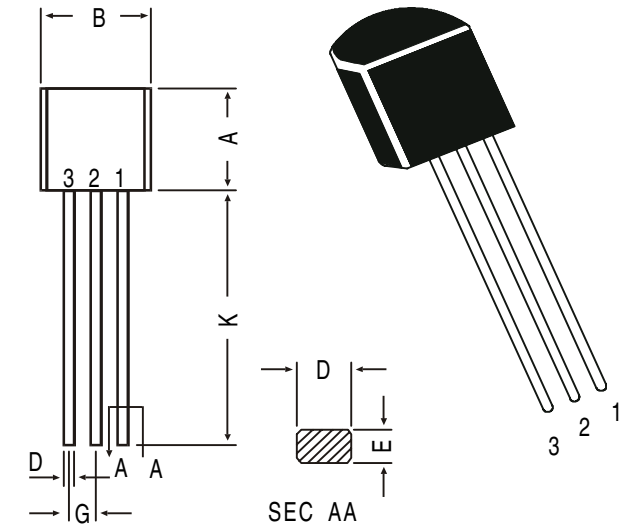
DESCRIPTION	SYMBOL	VALUE	UNIT
Collector -Base Voltage	VCBO	35	V
Collector -Emitter Voltage	VCEO	30	V
Emitter Base Voltage	VEBO	5.0	V
Collector Current	IC	500	mA
Emitter Current	IE	-500	mA
Collector Power Dissipation	PC	500	mW
Operating And Storage Junction Temperature Range	Tj, Tstg	-55 to +150	deg C

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cut off Current	ICBO	VCB=35V, IE=0	-	-	100	nA
Emitter Cut off Current	IEBO	VEB=5V, IC=0	-	-	100	nA
DC Current Gain	hFE(1)	IC=100mA, VCE=1V	70	-	240	
	hFE(2)	IC=400mA, VCE=6V	25	-	-	
Collector Emitter Saturation Voltage	VCE(Sat)	IC=100mA, IB=10mA	-	-	0.25	V
Base Emitter Voltage	VBE(on)	IC=100mA, VCE=1V	-	-	1.0	V
<b>Dynamic Characteristics</b>						
Collector Output Capacitance	Cob	VCB=6V, IE=0, f=1MHz	-	7.0	-	pF
Transition Frequency	ft	VCE=6V, IC=20mA,	-	300	-	MHz
<b>hFE(1) CLASSIFICATION</b>	<b>0 : 70 - 140</b>	<b>Y : 120 - 240,</b>				
<b>hFE(2)</b>	<b>0 : 25 M</b>	<b>Y : 40 Min,</b>				

# TO-92 Plastic Package

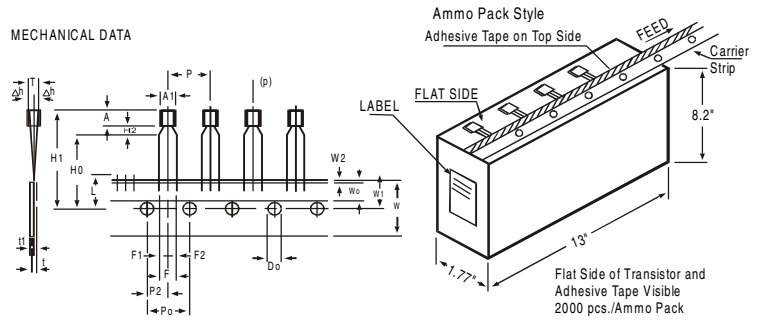
## TO-92 Transistors on Tape and Ammo Pack



**PIN CONFIGURATION**  
 1. BASE  
 2. COLLECTOR  
 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	—



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	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			t1 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		
	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"	5.0K	17" x 15" x 13.5"	80.0K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2.0K	17" x 15" x 13.5"	32.0K	12.5 kgs

## Customer Notes

### Disclaimer

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