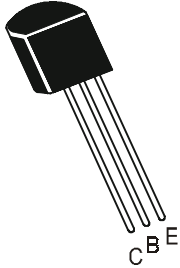


**SILICON PLANAR EPITAXIAL TRANSISTORS**

**BC337  
BC337A  
BC338**

**TO-92  
Plastic Package**

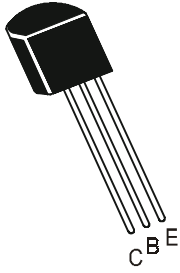


**Complementary Transistors For Use in Driver And Output Stages of Audio Amplifiers**

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

DESCRIPTION	SYMBOL	BC327	BC327A	BC328	UNITS
		BC337	BC337A	BC338	
Collector Emitter Voltage	$V_{CEO}$	45	60	25	V
Collector Emitter Voltage	$V_{CES}$	50	60	30	V
Emitter Base Voltage	$V_{EBO}$		5.0		V
Collector Current Continuous	$I_C$		800		mA
<b>Peak</b>	$I_{CM}$		1.0		A
Emitter Current Peak	$I_{EM}$		1.0		A
Base Current Continuous	$I_B$		100		mA
Base Current Peak	$I_{BM}$		200		mA
Power Dissipation @ Ta=25°C	$P_{TA}$		625		mW
Derate Above 25°C			5		mW/°C
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$		-65 to +150		°C
<b>THERMAL RESISTANCE</b>					
Junction to Ambient in Free Air	$R_{th(j-a)}$		200		°C/W

# SILICON PLANAR EPITAXIAL TRANSISTORS



**BC337**  
**BC337A**  
**BC338**

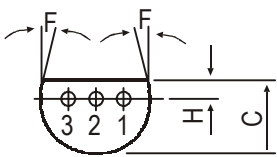
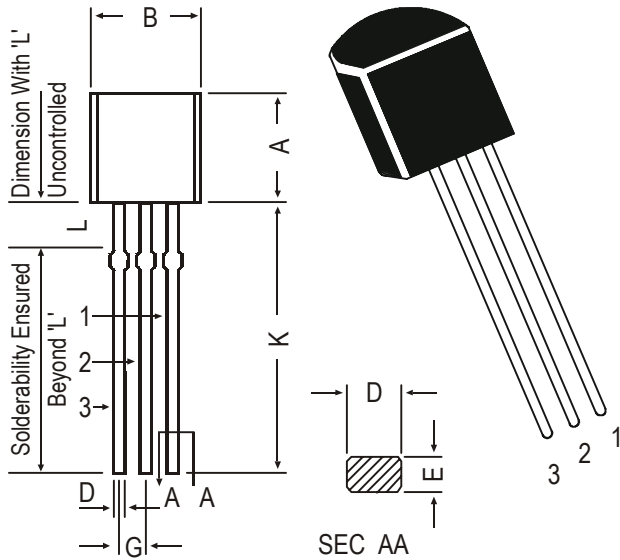
**TO-92**  
**Plastic Package**

## ELECTRICAL CHARACTERISTICS (Ta=25° C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	BC327	BC327A	BC328	UNITS
			BC337	BC337A	BC338	
<b>Collector Emitter Voltage</b>	$V_{CEO}$	$I_C=10mA, I_B=0$	>45	>60	>25	V
	$V_{CES}$	$I_C=100\mu A, I_E=0$	>50	>60	>30	V
<b>Emitter Base Voltage</b>	$V_{EBO}$	$I_E=10\mu A, I_C=0$			>5.0	V
<b>Collector-Cut off Current</b>	$I_{CBO}$	$V_{CB} = 20V, I_E = 0$			<100	nA
		$T_J = 150^\circ C$				
<b>Emitter cut off Current</b>	$I_{EBO}$	$V_{CB} = 20V, I_E = 0$			<5.0	$\mu A$
		$V_{EB} = 5V, I_C = 0$			<10	$\mu A$
<b>DC Current Gain</b>	$h_{FE}^*$	$I_C=500mA, V_{CE}=1V$			>40	
		$I_C=100mA, V_{CE}=1V$	100-600	100-400	100-600	
		<b>Group-10</b>	63-160		63-160	
		<b>Group-16</b>	100-250		100-250	
		<b>Group-25</b>	160-400		160-400	
		<b>Group-40</b>	250-600		250-600	
<b>Collector Emitter Saturation Voltage</b>	$V_{CE(sat)}^*$	$I_C=500mA, I_B=50mA$			<0.70	V
<b>Base Emitter On Voltage</b>	$V_{BE(on)}^*$	$I_C=500mA, V_{CE} = 1V$			<1.20	V
<b><u>DYNAMICS CHARACTERISTICS</u></b>						
<b>Transition Frequency</b>	$f_T$	$I_C=10mA, V_{CE}=5V$ $f=35MHz$	<b>NPN</b>		Typ 200	MHz
			<b>PNP</b>		Typ 100	MHz
<b>Out-put Capacitance</b>	$C_{ob}$	$V_{CB}=10V, f=1MHz$	<b>NPN</b>		Typ 5.0	pF
<b>Noise Figure</b>			<b>PNP</b>		Typ 8.0	pF

\*Pulse Test : Pulse Width = 300us, Duty Cycle =2%.

**TO-92 Plastic Package**

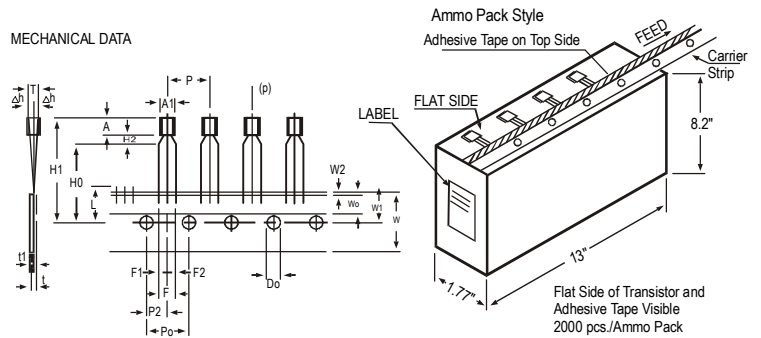


**PIN CONFIGURATION**  
 1. EMITTER  
 2. BASE  
 3. COLLECTOR

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 dimensions 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		CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
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	TO BE MEASURED AT BOTTOM OF CLINCH
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	
DISTANCE BETWEEN OUTER LEADS	F		5.08		+0.6 -0.2	AT TOP OF BODY
COMPONENT ALIGNMENT	Δh		0	1		
TAPE WIDTH	W		18		±0.5	t1 0.3 - 0.6
HOLD-DOWN TAPE WIDTH	W0		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		
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"	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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**Continental Device India Limited**

C-120 Naraina Industrial Area, New Delhi 110 028, India.  
Telephone + 91-11-579 6150 Fax + 91-11-579 9569, 579 5290  
e-mail [sales@cdil.com](mailto:sales@cdil.com) [www.cdil.com](http://www.cdil.com)