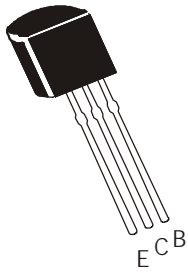


PNP/NPN SILICON PLANAR EPITAXIAL TRANSISTORS

**CC327, CC327A, CC328 (PNP)
CC337, CC337A, CC338 (NPN)
TO-92
BCE**



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

ABSOLUTE MAXIMUM RATINGS(Ta=25 deg C)

DESCRIPTION	SYMBOL	CC327	CC327A	CC328	UNITS
		CC337	CC337A	CC338	
Collector -Emitter Voltage	VCE0	45	60	25	V
Collector -Emitter Voltage	VCES	50	60	30	V
Emitter -Base Voltage	VEBO		5.0		V
Collector Current Continuous	IC		500		mA
Peak	ICM		1.0		A
Emitter Current Peak	IEM		1.0		A
Base Current Continuous	IB		100		mA
Base Current Peak	IBM		200		mA
Power Dissipation@ Ta=25 deg C	PTA		625		mW
Derate Above 25 deg C			5		mW/deg C
Operating & Storage Junction Temperature Range	Tj, Tstg		-65 to +150		deg C
THERMAL RESISTANCE					
From Junction to Ambient in Free Air	Rth(j-a)		200		deg C/W

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

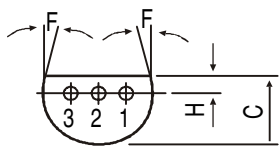
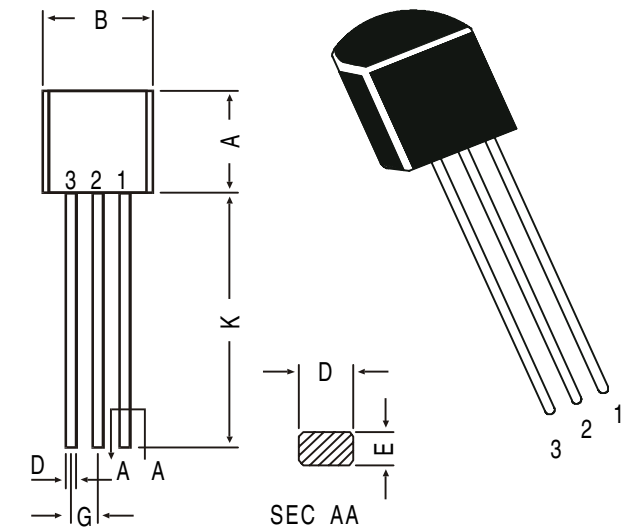
DESCRIPTION	SYMBOL	TEST CONDITION	CC327	CC327A	CC328	UNITS
			CC337	CC337A	CC338	
Collector -Emitter Voltage	VCE0	IC=10mA, IB=0	>45	>60	>25	V
	VCES	IC=100uA, IE=0	>50	>60	>30	V
Emitter-Base Voltage	VEBO	IE=10uA, IC=0		>5.0		V
Collector-Cut off Current	ICBO	VCB=20V, IE=0		<100		nA
		VCB=20V, IE=0, Tj=150 deg C		<5.0		uA
Emitter Cut off Current	IEBO	VEB=5V, IC=0		<10		uA

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

DESCRIPTION	SYMBOL	TEST CONDITION	CC327 CC337	CC327A CC337A	CC328 CC338	UNITS
DC Current Gain	hFE*	IC=500mA, VCE=1V			>40	
		IC=100mA, VCE=1V	100-600	100-400	100-600	
		Group-16	100-250	-	100-250	
		Group-25	160-400	-	160-400	
		Group-40	250-600	-	250-600	
Collector Emitter Saturation Voltage	VCE(Sat) *	IC=500mA, IB=50mA			<0.70	V
Base Emitter on Voltage	VBE(on) *	IC=500mA, VCE=1V			<1.20	V
<u>DYNAMIC CHARACTERISTICS</u>						
Transistors Frequency	ft	IC=10mA, VCE=5V f=35MHz	NPN PNP	Typ 200 Typ 100		MHz
Out-Put Capacitance	Cob	VCB=10V, f=1MHz	NPN	Typ 5.0		pF
			PNP	Typ 8.0		pF

*Pulse Test : Pulse Width =300us, Duty CYCLE=2%

TO-92 Plastic Package

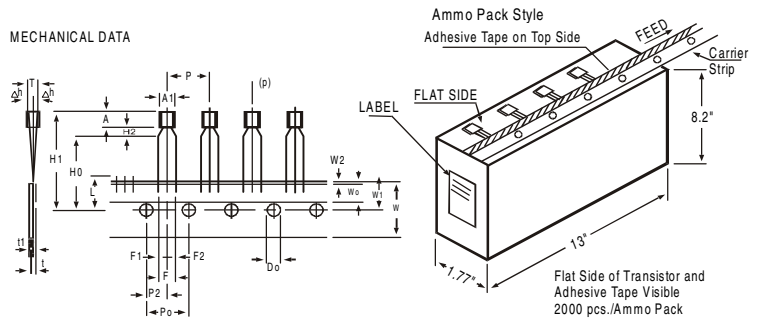


PIN CONFIGURATION
 1. BASE
 2. COLLECTOR
 3. EMITTER

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	—

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	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. HOLD-DOWN 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

Notes

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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