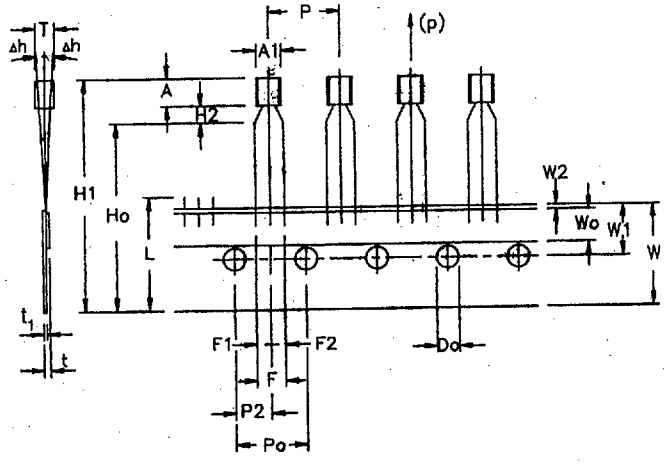
TO-92 Plastic Package Transistors (NPN)

CDIL

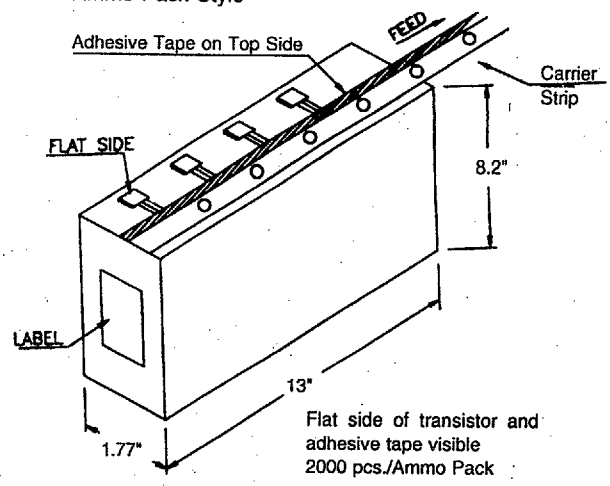
Maximum Ratings						Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)																						
Type No.	V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	P_D (W) @Tc=25°c	I_C (A)	I_{CBO} (µA) Max	V_{CB} @ (V)	I_{CES} (µA) Max	V_{CE} @ (V)	h_{FE} @ Min	Max	I_C & (mA)	V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	Min	$V_{BE(SAT)}$ (V) Max	I_C @ (mA)	C_{ob} (pF) Typ	Max	f_t (MHz) Min	Typ	@ I_C Max	(mA)	$t_{(off)}$ (ns) Max	N_F (dB) Max	@ Freq (MHz)	C_{re} (pF) Max	CDIL Case Style
CSC2328AY	30	30	5	1	1.5	0.1	30			160	320	500	2	2			1500	30			120	500						TO-92-1
CSC2458	50	50	5	0.2	0.15	0.1	50			70	700	2	6	0.25			100		3.5	80		1			10			TO-92-1
CSC2458BL	50	50	5	0.2	0.2	0.1	50			350	700	2	6	0.25			100		3.5	80		1			10			TO-92-1
CSC2458GR	50	50	5	0.2	0.15	0.1	50			200	400	2	6	0.25			100		3.5	80		1			10			TO-92-1
CSC2458O	50	50	5	0.2	0.15	0.1	50			70	140	2	6	0.25			100		3.5	80		1			10			TO-92-1
CSC2458Y	50	50	5	0.2	0.15	0.1	50			120	240	2	6	0.25			100		3.5	80		1			10			TO-92-1
CSC3114	60	50	7	0.4	0.15	0.1	40			100	560	1	6	0.5			50	3			100	1						TO-92-1
CSC3114R	60	50	7	0.4	0.15	0.1	40			100	200	1	6	0.5			50	3			100	1						TO-92-1
CSC3114S	60	50	7	0.4	0.15	0.1	40			140	280	1	6	0.5			50	3			100	1						TO-92-1
CSC3114T	60	50	7	0.4	0.15	0.1	40			200	400	1	6	0.5			50	3			100	1						TO-92-1
CSC3114U	60	50	7	0.4	0.15	0.1	40			280	560	1	6	0.5			50	3			100	1						TO-92-1
CSC3197	30	25	4	0.3	0.05	0.1	30			20	200	12.5	12.5	0.2		1.5	13	0.8	2	300		13						TO-92-1
CSC3198	60	50	5	0.625	0.15	0.1	60			70	700	2	6	0.25		1	100	2	3.5	80		1			10			TO-92-1
										25		150	6															
CSC3198BL	60	50	5	0.625	0.15	0.1	60			350	700	2	6	0.25		1	100	2	3.5	80		1			10			TO-92-1
										25		150	6															
CSC3198GR	60	50	5	0.625	0.15	0.1	60			200	400	2	6	0.2		1	100	2	3.5	80		1			10			TO-92-1
										25		150	6															
CSC3198O	60	50	5	0.625	0.15	0.1	60			70	140	2	6	0.25		1	100	2	3.5	80		1			10			TO-92-1
										25		150	6															
CSC3198Y	60	50	5	0.625	0.15	0.1	60			120	240	2	6	0.25		1	100	2	3.5	80		1			10			TO-92-1
										25		150	6															
CSC3199	50	50	5	0.4	0.15	0.1	50			70	700	2	6	0.25			100	2	3.5	80		1			10			TO-92-1
CSC3199BL	50	50	5	0.4	0.15	0.1	50			350	700	2	6	0.25			100	2	3.5	80		1			10			TO-92-1
CSC3199GR	50	50	5	0.4	0.15	0.1	50			200	400	2	6	0.25			100	2	3.5	80		1						TO-92-1
CSC3199O	50	50	4	0.4	0.15	0.1	50			70	140	2	6	0.25			100	2	3.5	80		1			10			TO-92-1
CSC3199Y	50	50	5	0.4	0.15	0.1	50			120	240	2	6	0.25			100	2	3.5	80		1			10			TO-92-1
CSC3331	60	50	6	0.5	0.2	1	40			70		0.1	6	0.3		1	100	3.5			200	10						TO-92-1
										100	800	1	6															
CSC3331R	60	50	6	0.5	0.2	1	40			70		0.1	6	0.3		1	100	3.5			200	10						TO-92-1
										100	200	1	6															
CSC3331S	60	50	6	0.5	0.2	1	40			70		0.1	6	0.3		1	100	3.5			200	10						TO-92-1
										140	280	1	6															
CSC3331T	60	50	6	0.5	0.2	1	40			70		0.1	6	0.3		1	100	3.5			200	10						TO-92-1
										200	400	1	6															
CSC3331U	60	50	6	0.5	0.2	1	40			70		0.1	6	0.3		1	100	3.5			200	10						TO-92-1
										280	560	1	6															

TO-92 Taping Details

MECHANICAL DATA



Ammo Pack Style



Flat side of transistor and adhesive tape visible
2000 pcs./Ammo Pack

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	
Hold-Down Tape Position	W2		0.5		±0.2	
Lead Wire Clinch Height	Ho		16		±0.5	
Component Height	H1			32.25		
Length of Snipped leads	L			11.0		
Feed Hole Diameter	Do		4		±0.2	
Total Tape Thickness	t			1.2		t_1 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				

Dimensions in m.m.

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 permitted.
5. A tape trailer, having at least three feed holes is required after the last component.
6. Splices shall not interfere with the sprocket feed holes.