

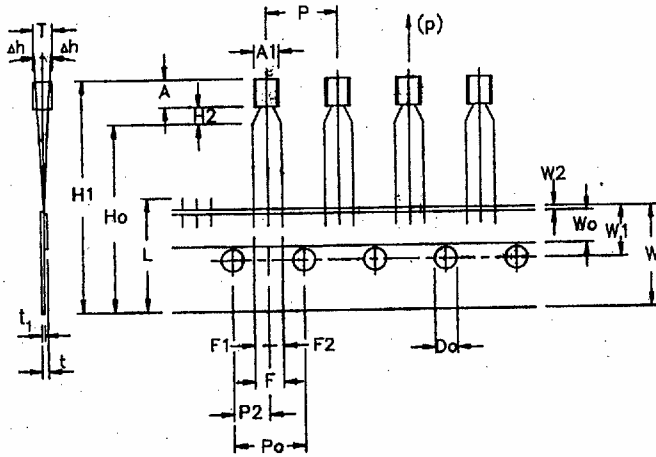
CDIL

TO-92 Plastic Package Transistors (NPN)

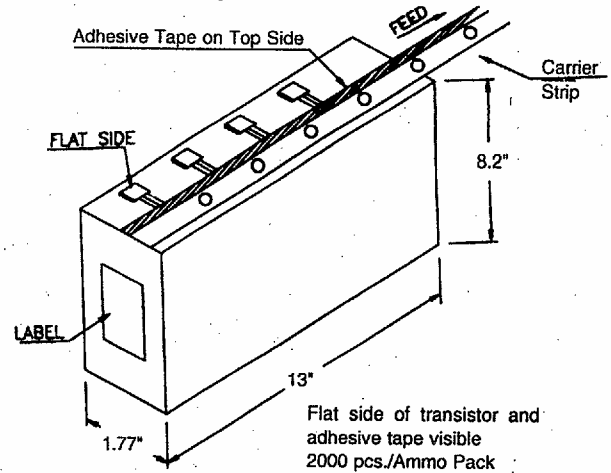
Maximum Ratings						Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)																
Type No.	V _{CB0} (V) Min	V _{CEO} (V) Min	V _{EB0} (V) Min	P _D (W) @Tc=25°C	I _C (A)	I _{CB0} (μA) Max	V _{CE} (V) @ I _C	I _{CE0} (μA) Max	V _{CE} (V) @ I _C	h _{FE} @ I _C & V _{CE} Min Max (mA) (V)	V _{CE(SAT)} (V) Max	V _{BE(SAT)} (V) Max	I _C (mA) @ V _{CE}	C _{ob} (pF) Typ Max	f _T (MHz) Min Typ Max	t _{on} (ns) Max	N _F (dB) Max	@ Freq (MHz)	C _{re} (pF) Max	CDIL Case Style		
CSC2002M	60	60	5	0.5	0.3	0.1	60			90 180 50 1 30 300 2	0.6	1.2	300	7 15	50 140 10					TO-92-1		
CSC2003	80	80	5	0.5	0.3	0.1	80			90 400 50 1 30 300 2	0.6	1.2	300	7 15	50 140 10					TO-92-1		
CSC2003K	80	80	5	0.5	0.3	0.1	80			200 400 50 1 30 300 2	0.6	1.2	300	7 15	50 140 10					TO-92-1		
CSC2003L	80	80	5	0.5	0.3	0.1	80			135 270 50 1 30 300 2	0.6	1.2	300	7 15	50 140 10					TO-92-1		
CSC2003M	80	80	5	0.5	0.3	0.1	80			90 180 50 1 30 300 2	0.6	1.2	300	7 15	50 140 10					TO-92-1		
CSC2120	35	30	5	0.6	0.8	0.1	35			100 320 100 1 35 700 1	0.5		500	13	120 10					TO-92-1		
CSC2120O	35	30	5	0.6	0.8	0.1	35			100 200 100 1 35 700 1	0.5		500	13	120 10					TO-92-1		
CSC2120Y	35	30	5	0.6	0.8	0.1	35			160 320 100 1 35 700 1	0.5		500	13	120 10					TO-92-1		
CSC2216	50	45	4	0.3	0.05	0.1	50			40 100 12.5 12.5	0.2	1.5	15	2	300 13					TO-92-3		
CSC2229Y	200	150	5	0.625	0.5	0.1	200			120 360 10 5	0.5	1	10	3.5 5	120 10					TO-92-1		
CSC2240	120	120	5	0.3	0.1	0.1	120			200 700 2 6	0.3		10	3.0	100 1		6			TO-92		
CSC2240BL	120	120	5	0.3	0.1	0.1	120			350 700 2 6	0.3		10	3.0	100 1		6			TO-92		
CSC2240GR	120	120	5	0.3	0.1	0.1	120			200 400 2 6	0.3		10	3.0	100 1		6			TO-92-1		
CSC2271	300	300	6	0.9	0.1	1	200			40 200 10 10	0.6	1	20	7.5 50	10					TO-92-1		
CSC2271C	300	300	6	0.9	0.1	1	200			40 80 10 10	0.6	1	20	7.5 50	10					TO-92-1		
CSC2271D	300	300	6	0.9	0.1	1	200			60 120 10 10	0.6	1	20	7.5 50	10					TO-92-1		
CSC2271E	300	300	6	0.9	0.1	1	200			100 200 10 10	0.6	1	20	7.5 50	10					TO-92-1		
CSC2274D	100	80	5	0.6	0.5	1	40			60 120 50 5 35 400 5	0.6	1.2	400	5	120 10					TO-92-1		
CSC2274E	100	80	5	0.6	0.5	1	40			100 200 50 5 35 400 5	0.6	1.2	400	5	120 10					TO-92-1		
CSC2274F	100	80	5	0.6	0.5	1	40			160 320 50 5 35 400 5	0.6	1.2	400	5	120 10					TO-92-1		
CSC2274K	100	80	5	0.6	0.5	1	40			60 320 50 5 35 400 5	0.6	1.2	400	5	120 10					TO-92-1		
CSC2309	55	50	5	0.2	0.1	0.5	18			250 1200 2 12	0.2		10	3.5 150 230	2					TO-92-1		
CSC2309D	55	50	5	0.2	0.1	0.5	18			250 500 2 12	0.2		10	3.5 150 230	2					TO-92-1		
CSC2309E	55	50	5	0.2	0.1	0.5	18			400 800 2 12	0.2		10	3.5 150 230	2					TO-92-1		
CSC2309F	55	50	5	0.2	0.1	0.5	18			600 1200 2 12	0.2		10	3.5 150 230	2					TO-92-1		
CSC2328A	30	30	5	1	1.5	0.1	30			100 320 500 2	2		1500	30	120 500					TO-92-1		
CSC2328AO	30	30	5	1	1.5	0.1	30			100 200 500 2	2		1500	30	120 500					TO-92-1		



MECHANICAL DATA



Ammo Pack Style



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	
Feed Hole Centre to Component Centre	P2		6.35		±0.4	Cumulative Pitch Error 1.0 mm/20 Pitch To be measured at bottom of Clinch
Distance between Outer Leads	F		5.08		±0.6	
Component Alignment	Δh		0	1	-0.2	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:

- Maximum alignment deviation between leads not to be greater than 0.2 mm.
- Maximum non-cumulative variation between tape feed holes shall not exceed 1 mm in 20 pitches
- Hold-down tape not to exceed beyond the edge(s) of carrier tape and there shall be no exposure of adhesive.
- No more than 3 consecutive missing components permitted.
- A tape trailer, having at least three feed holes is required after the last component.
- Splices shall not interfere with the sprocket feed holes.