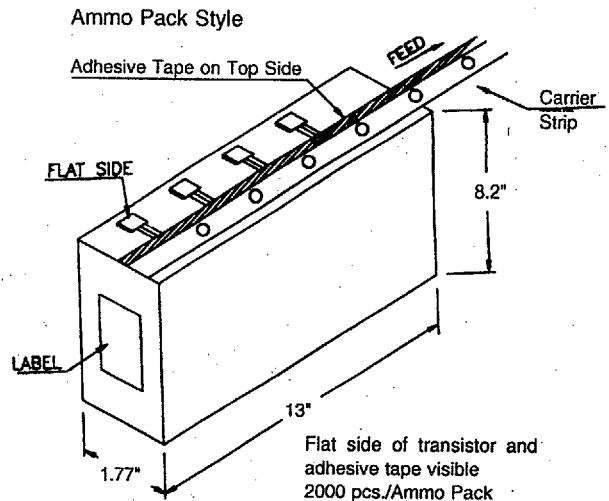
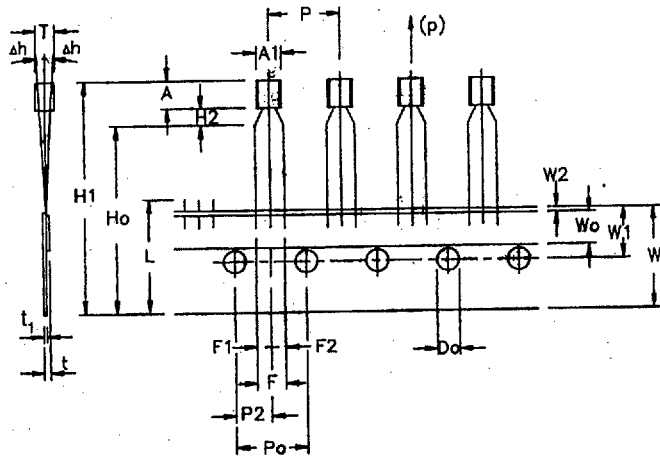


TO-92 Plastic Package Transistors (NPN)



Maximum Ratings								Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)														
Type No.	V _{CSO} (V)	V _{CEO} (V)	V _{EB0} (V)	P _D (W)	I _C (A)	I _{CSO} (μA)	V _{CB} (V)	I _{CS} (μA)	V _{CE} (V)	h _{FE} @	I _C & V _{CE}	V _{CE(SAT)} (V)	V _{BE(SAT)} (V)	I _C (mA)	C _{ob} (pF)	f _t (MHz)	t _{off} (ns)	N _F (dB)	@ Freq (MHz)	C _{re} (pF)	CDIL Case Style	
	Min	Min	Min	@ Tc=25°C		Max	@ (V)	Max	@ (V)	Min- Max	(mA)	Max Min	Max	Max	Typ Max	Min Typ Max	Max	Max	Max	Max		
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	
CSC3198BL	60	50	5	0.625	0.15	0.1	60			25 150	6 6											TO-92-1
CSC3198GR	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	
CSC3198O	60	50	5	0.625	0.15	0.1	60			25 150	6 6											TO-92-1
CSC3198Y	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	
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	
CSC3198Y	60	50	5	0.625	0.15	0.1	60			25 150	6 6											TO-92-1
CSC3199	50	50	5	0.4	0.15	0.1	50			120 240	2 6	0.25	1	100	2 3.5	80 1			10		TO-92-1	
CSC3199BL	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			70 100	0.1 800	6 6	0.3	1 100	3.5	200 10					TO-92-1	
CSC3331R	60	50	6	0.5	0.2	1	40			70 100	0.1 200	6 6	0.3	1 100	3.5	200 10					TO-92-1	
CSC3331S	60	50	6	0.5	0.2	1	40			70 140	0.1 280	6 6	0.3	1 100	3.5	200 10					TO-92-1	
CSC3331T	60	50	6	0.5	0.2	1	40			70 200	0.1 400	6 6	0.3	1 100	3.5	200 10					TO-92-1	
CSC3331U	60	50	6	0.5	0.2	1	40			70 280	0.1 560	6 6	0.3	1 100	3.5	200 10					TO-92-1	

MECHANICAL DATA



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	
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:

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.