

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	-

ALL DIMENSIONS IN M.M.

### Pin Configuration Available in TO-92

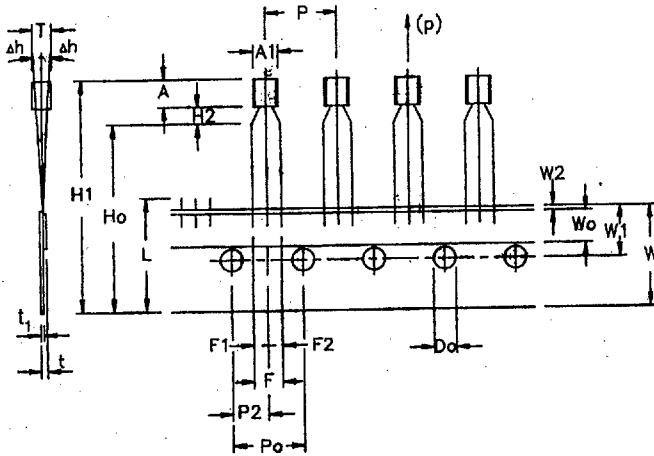
CDIL Code Style	Pin 1	Pin 2	Pin 3
TO-92	Collector	Base	Emitter
TO-92-1	Base	Collector	Emitter
TO-92-2	Base	Emitter	Collector
TO-92-3	Collector	Emitter	Base
TO-92-4	Emitter	Base	Collector

## TO-92 Plastic Package Transistors (NPN)

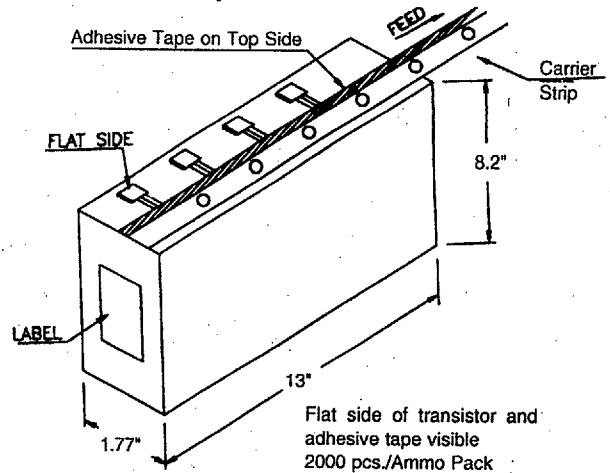
Maximum Ratings							Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)																	
Type No.	V <sub>CB0</sub> (V) Min	V <sub>CE0</sub> (V) Min	V <sub>EBO</sub> (V) Min	P <sub>D</sub> (W) @Tc=25°C	I <sub>C</sub> (A)	I <sub>CB0</sub> (μA) Max	V <sub>CB</sub> (V) @	I <sub>CES</sub> (μA) Max	V <sub>CE</sub> (V) @	h <sub>FE</sub> @	I <sub>C</sub> & V <sub>CE</sub> (mA) (V)	V <sub>CE(SAT)</sub> (V) Max	V <sub>BE(SAT)</sub> (V) Min	I <sub>C</sub> (mA) Max	C <sub>ob</sub> (pF) Typ	f <sub>t</sub> (MHz) Min	f <sub>t</sub> (MHz) Typ	f <sub>t</sub> (MHz) Max	t <sub>on</sub> (ns) Max	N <sub>F</sub> (dB) Max	@ Freq (MHz)	C <sub>10</sub> (pF) Max	CDIL Case Style	
2N2712	18	18	5	0.625	0.1	0.5	18			75	225	2	4.5		12	80	300	2						TO-92-1
2N2714	18	18	5	0.625	0.1	0.5	18			75	225	2	4.5	0.3	.6	1.2	50							TO-92-1
#2N2924	25	25	5	0.625	0.1	0.1	25			150	300	2	10		10									TO-92-1
2N3390	25	25	5	0.625	0.1	0.1	18			400	800	2	4.5		10									TO-92-1
2N3391A	25	25	5	0.625	0.1	0.1	18			250	500	2	4.5		10						5			TO-92-1
2N3395	25	25	5	0.625	0.1	0.1	18			150	500	2	4.5		10									TO-92-1
2N3396	25	25	5	0.625	0.1	0.1	18			90	500	2	4.5		10									TO-92-1
2N3397	25	25	5	0.625	0.1	0.1	18			55	500	2	4.5		10									TO-92-1
2N3398	25	25	5	0.625	0.1	0.1	18			55	800	2	4.5		10									TO-92-1
2N3414	25	25	5	0.6	0.5	0.1	25			75	225	2	4.5	0.3	.6	1.3	50							TO-92-1
2N3417	50	50	5	0.625	0.1	0.1	50			180	540	2	4.5	0.3	.6	1.3	50							TO-92-1
2N3564	30	15	4	0.625	0.05	0.05	15			20	200	15	10	0.3		0.97	20	3.5	400		1200	15		TO-92
2N3565	30	25	6	0.625	0.05	0.05	25			70		0.1	10	0.35		1		4	40		240	1		TO-92
										150	600	1	10											
2N3605		14		0.625	0.2	0.5	18			30		10	1	0.25		0.85	10	6	300			10	45	TO-92-1
2N3606		14		0.625	0.2	0.5	18			30		10	1	0.25		0.85	10	6	300			10	60	TO-92-1
2N3607		14		0.625	0.2	0.5	18			30		10	1	0.25		0.85	10	6	300			10	70	TO-92-1
2N3662	18	12	3	0.625	0.05	0.5	15			20		8	10		1.7	700	2100	5			6.5	60		TO-92-1
2N3663	30	12	3	0.625	0.05	0.5	15			20		8	10		1.7	700	2100	5			6.5	60		TO-92-1

# hFE values are hfe(min) and hfe(max) at 1.0 KHz.

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	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 <sub>1</sub> 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.