

TO-92L Plastic-Encapsulate Transistors

2SA966 TRANSISTOR (PNP)

FEATURE

- Complementary to 2SC2236 and 3 Watts Output Applications.

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

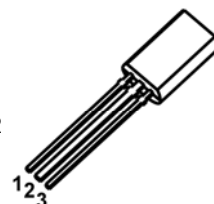
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-30	V
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-1.5	A
P_c	Collector Power Dissipation	0.9	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

TO-92L

1. EMITTER

2. COLLECTOR

3. BASE



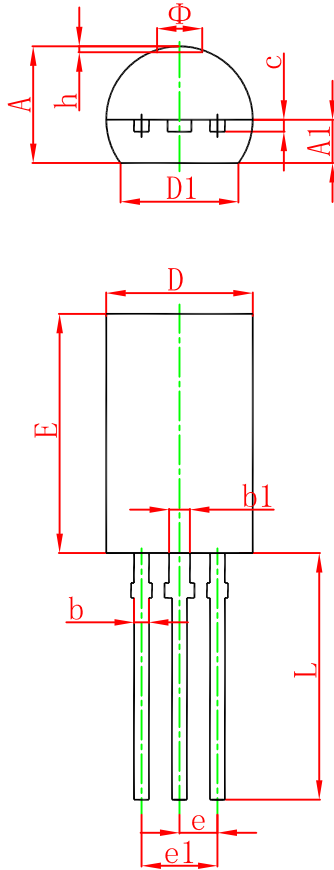
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V(BR)_{CBO}$	$I_C = -1\text{mA}$, $I_E = 0$	-30			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	$I_C = -10\text{mA}$, $I_B = 0$	-30			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E = -1\text{mA}$, $I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -30\text{V}$, $I_E = 0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}$, $I_C = 0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE} = -2\text{V}$, $I_C = -500\text{mA}$	100		320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1.5\text{A}$, $I_B = -0.03\text{A}$			-2	V
Base-emitter voltage	V_{BE}	$I_C = -500\text{mA}$, $V_{CE} = -2\text{V}$			-1	V
Transition frequency	f_T	$V_{CE} = -2\text{V}$, $I_C = -500\text{mA}$		120		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$			30	pF

CLASSIFICATION OF h_{FE}

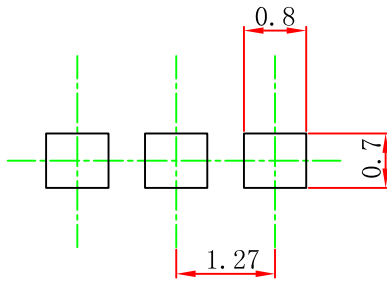
Rank	O	Y
Range	100-200	160-320

TO-92L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	3.750	4.050	0.148	0.159
A1	1.280	1.580	0.050	0.062
b	0.380	0.550	0.015	0.022
b1	0.620	0.780	0.024	0.031
c	0.350	0.450	0.014	0.018
D	4.750	5.050	0.187	0.199
D1	4.000		0.157	
E	7.850	8.150	0.309	0.321
e	1.270 TYP.		0.050 TYP.	
e1	2.440	2.640	0.096	0.104
L	13.800	14.200	0.543	0.559
Φ		1.600		0.063
h	0.000	0.300	0.000	0.012

TO-92L Suggested Pad Layout



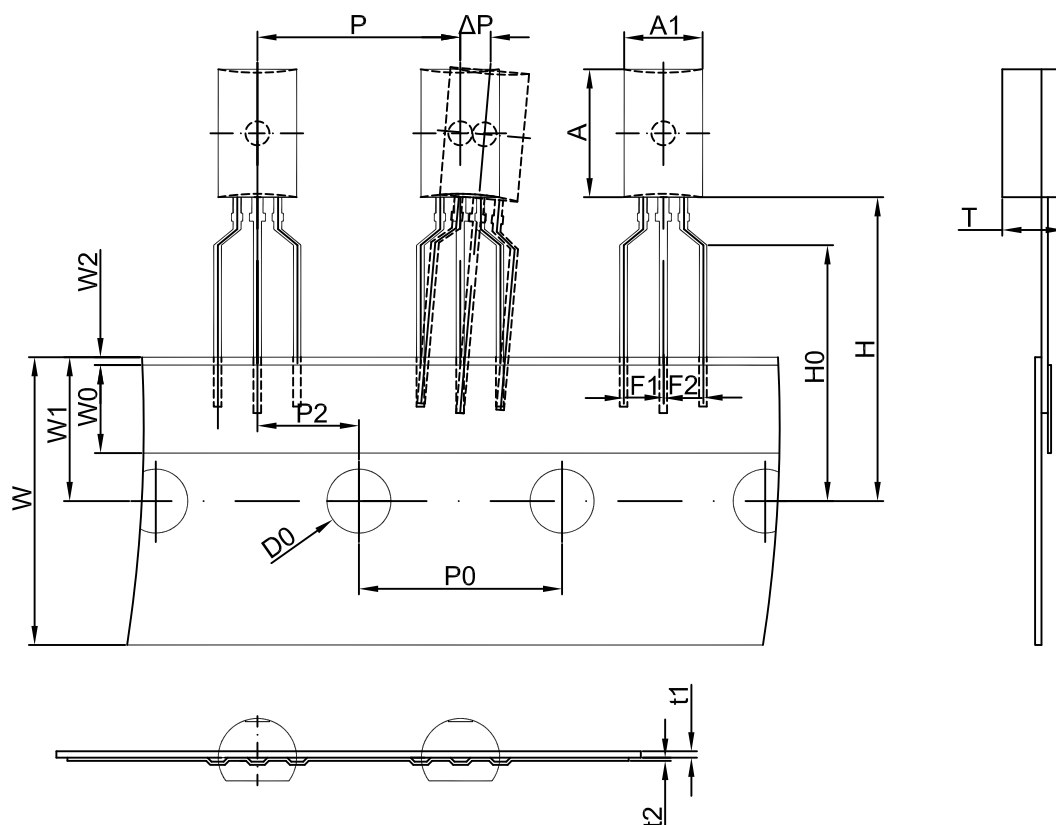
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

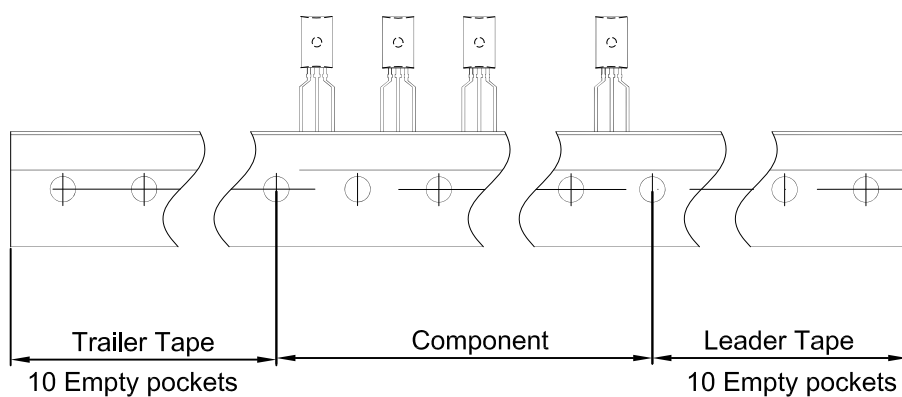
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TO-92L PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.9±0.15	8.0±0.15	3.9±0.15	12.7±0.3	12.7±0.2	6.35±0.3	2.5±0.3	2.5±0.3	18.0+1.0/-0.5
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0±0.5	9.0±0.5	1.0 MAX.	19.0+2.0/-1.0	16.0±0.5	4.0±0.2	0.4±0.05	0.2±0.05	0 ± 1.0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92L	2000 pcs	333×203×42	20,000 pcs	493×400×264