

## TO-92L Plastic-Encapsulate Transistors

### 2SA966 TRANSISTOR (PNP)

#### FEATURE

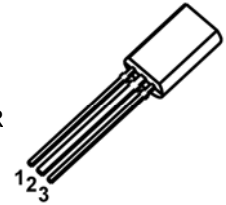
- Complementary to 2SC2236 and 3 Watts Output Applications.

#### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted )

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	-30	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-30	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current -Continuous	-1.5	A
P <sub>c</sub>	Collector Power Dissipation	0.9	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55-150	°C

#### TO-92L

1. EMITTER
2. COLLECTOR
3. BASE



#### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V(BR) <sub>CBO</sub>	I <sub>C</sub> = -1mA, I <sub>E</sub> =0	-30			V
Collector-emitter breakdown voltage	V(BR) <sub>CEO</sub>	I <sub>C</sub> = -10mA, I <sub>B</sub> =0	-30			V
Emitter-base breakdown voltage	V(BR) <sub>EBO</sub>	I <sub>E</sub> = -1mA, I <sub>C</sub> =0	-5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = -30V, I <sub>E</sub> =0			-0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -5V, I <sub>C</sub> =0			-0.1	μA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> = -500mA	100		320	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -1.5 A, I <sub>B</sub> = -0.03A			-2	V
Base-emitter voltage	V <sub>BE</sub>	I <sub>C</sub> = -500mA, V <sub>CE</sub> =-2V			-1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> =-500mA		120		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz			30	pF

#### CLASSIFICATION OF h<sub>FE</sub>

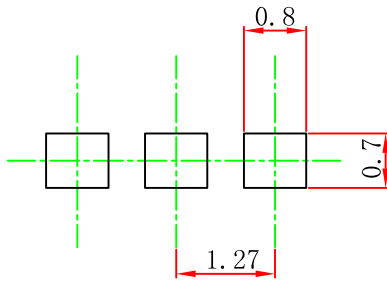
Rank	O	Y
Range	100-200	160-320

## 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
$\Phi$		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.

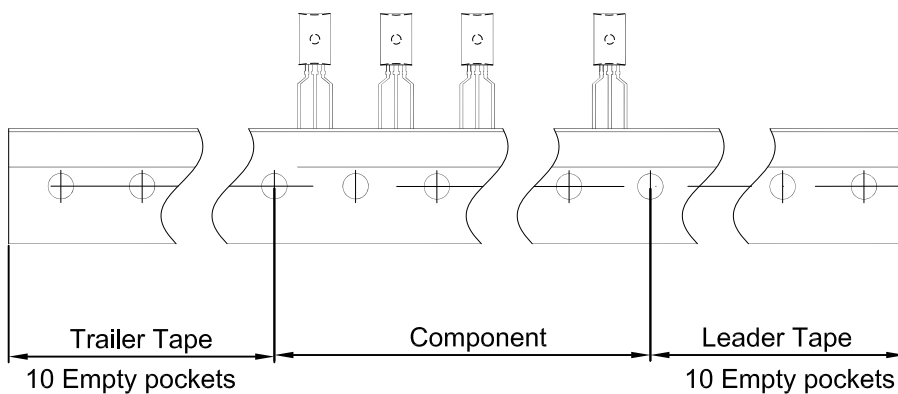
### NOTICE

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# TO-92L PACKAGE TAPING DIMENSION



Dimensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.9	8.0	3.9	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0	19.0	16.0	4.0	0.4	0.2	0



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