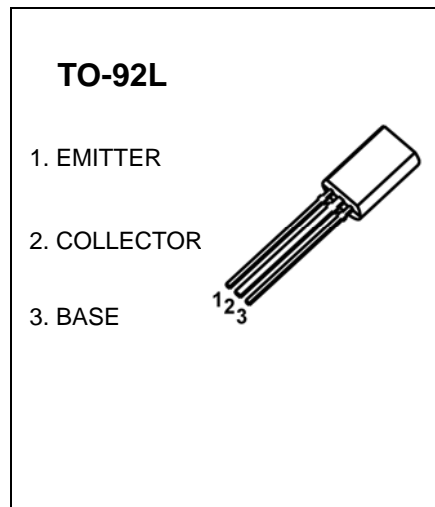


## TO-92L Plastic-Encapsulate Transistors

### 2SA966 TRANSISTOR (PNP)

#### FEATURE

- Complementary to 2SC2236 and 3 Watts Output Applications.

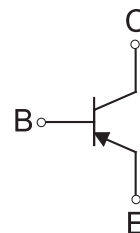


#### MARKING



A966=Device code  
Solid dot = Green molding compound device,  
if none, the normal device  
XXX=Code

#### Equivalent Circuit



#### ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SA966	TO-92L	Bulk	500pcs/Bag
2SA966-TA	TO-92L	Tape	2000pcs/Box

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

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	-30	V
V <sub>CE0</sub>	Collector-Emitter Voltage	-30	V
V <sub>EB0</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

## ELECTRICAL CHARACTERISTICS

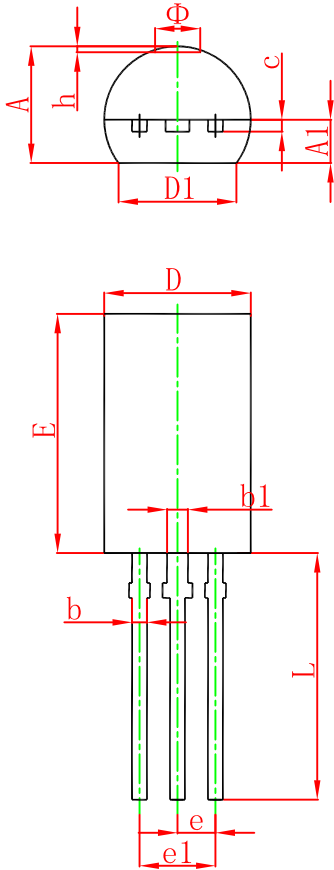
$T_a=25^\circ\text{C}$  unless otherwise specified

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

### CLASSIFICATION OF $h_{\text{FE}}$

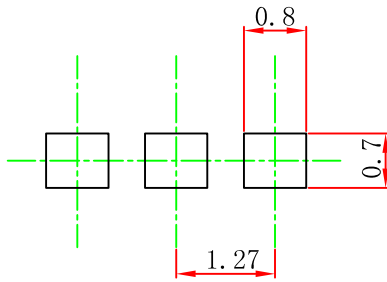
Rank	<b>O</b>	<b>Y</b>
Range	100-200	160-320

## 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



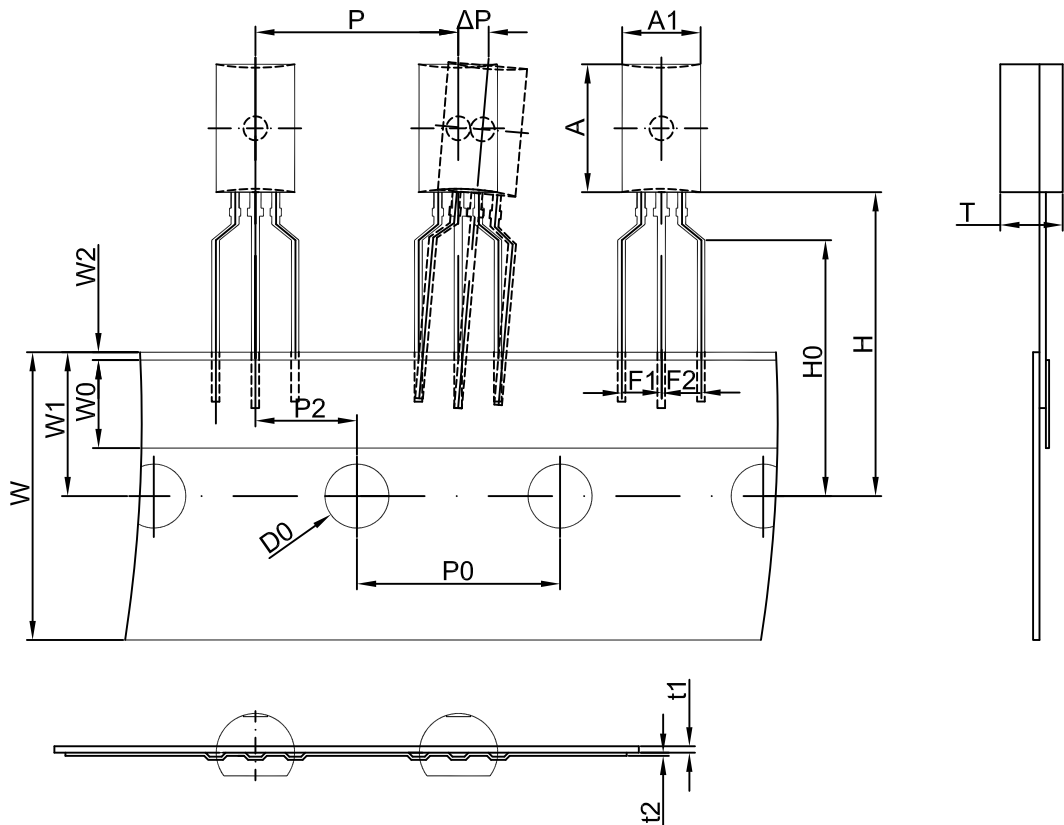
### Note:

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

### NOTICE

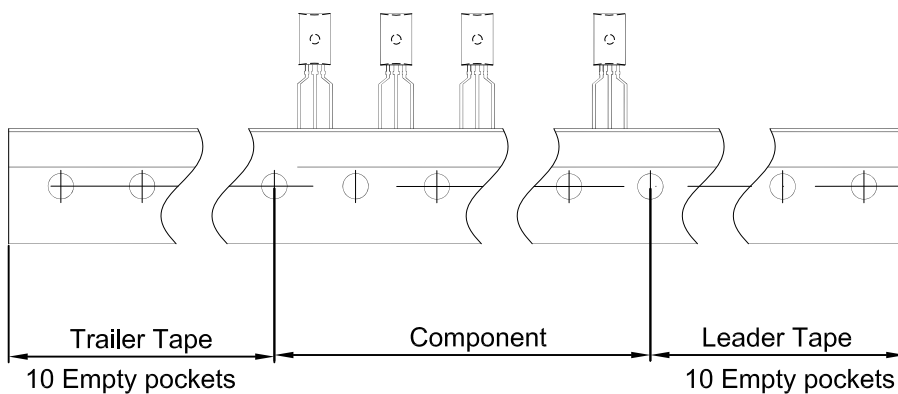
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# TO-92L PACKAGE TAPEING DIMENSION



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