

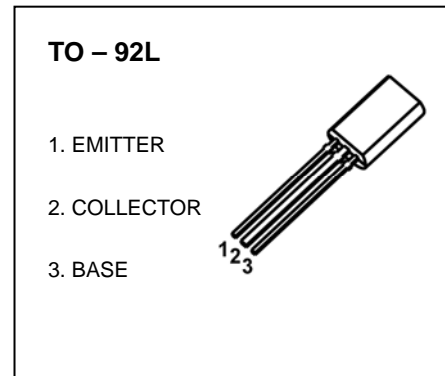


**TO-92L Plastic-Encapsulate Transistors**

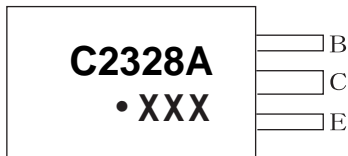
**KSC2328A** TRANSISTOR (NPN)

**FEATURES**

- Complement to KSA928A
- High DC Current Gain

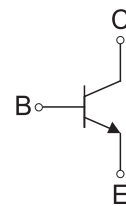


**MARKING**



C2328A=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
KSC2328A	TO-92L	Bulk	500pcs/Bag
KSC2328A-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>CEO</sub>	Collector-Emitter Voltage	30	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current	2	A
P <sub>C</sub>	Collector Power Dissipation	0.75	W
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	167	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150	°C

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## ELECTRICAL CHARACTERISTICS

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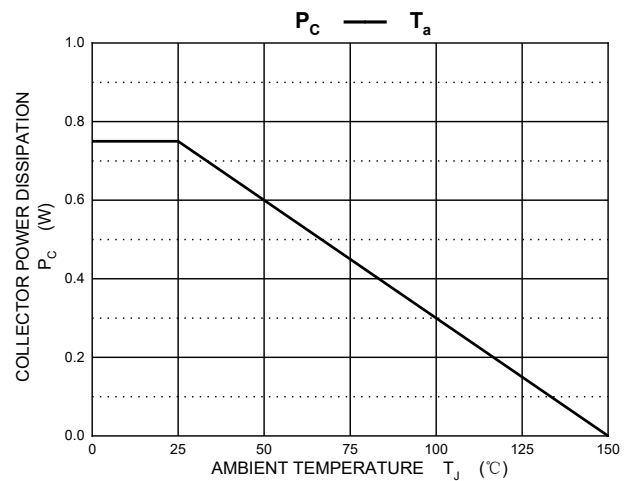
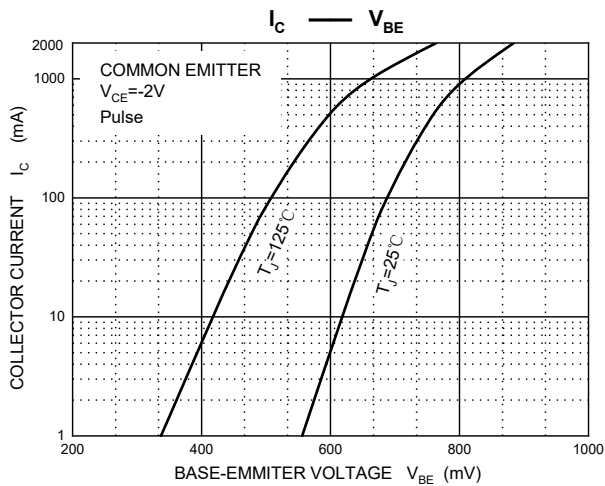
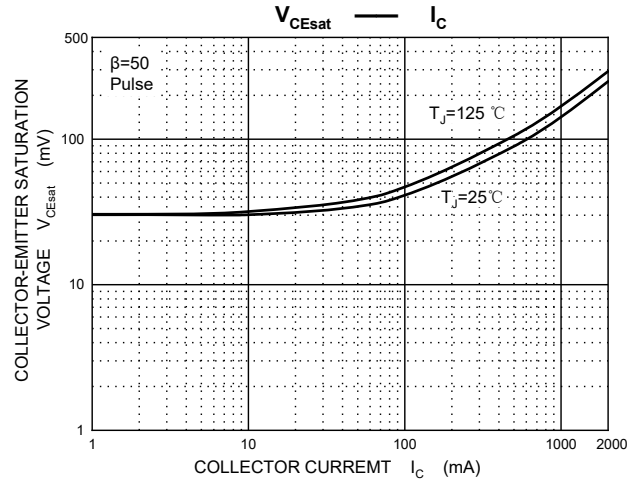
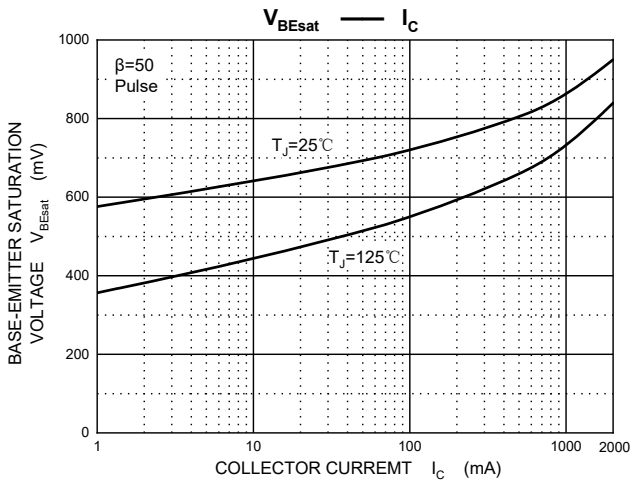
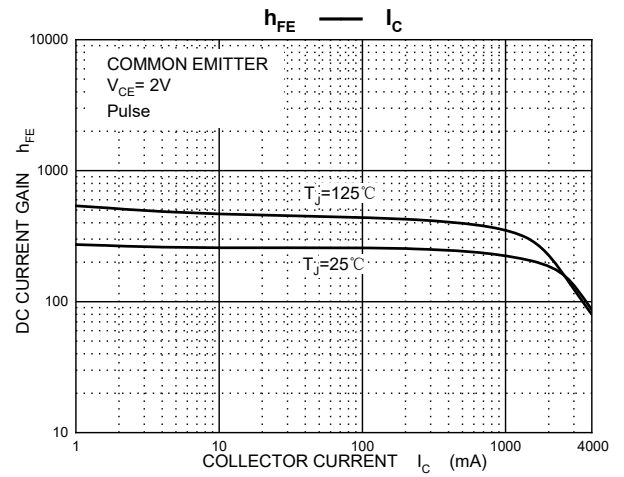
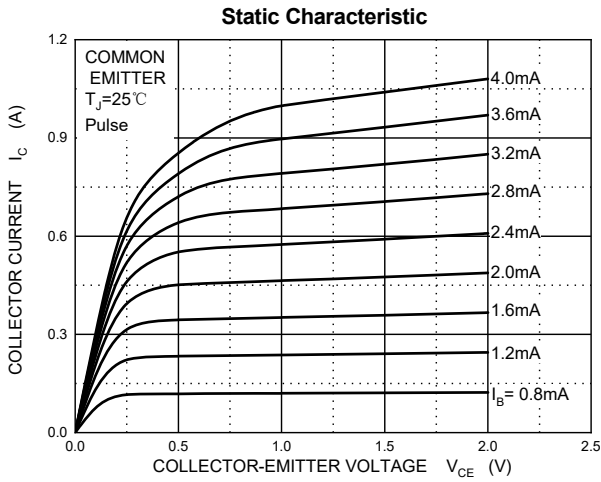
$T_a=25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	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	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			0.1	$\mu\text{A}$
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	$V_{BE}$	$V_{CE}=2\text{V}, I_C=500\text{mA}$			1	V
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		30		pF
Transition frequency	$f_T$	$V_{CE}=2\text{V}, I_C=500\text{mA}$		120		MHz

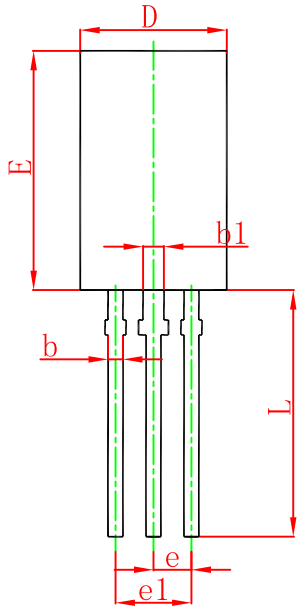
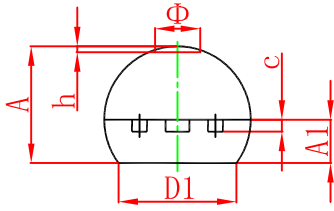
### CLASSIFICATION OF $h_{FE}$

RANK	O	Y
RANGE	100-200	160-320

# TYPICAL CHARACTERISTICS

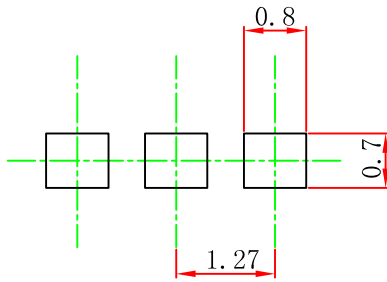


## TO-92L Package Outline Dimensions



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



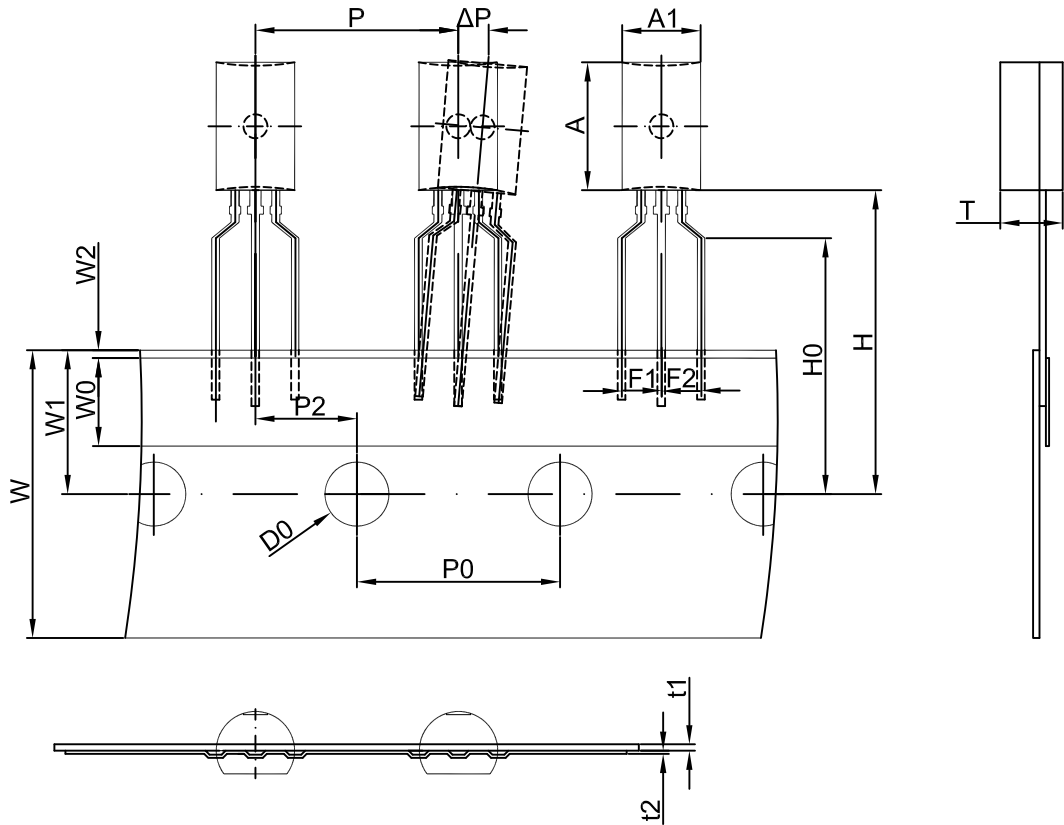
### Note:

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

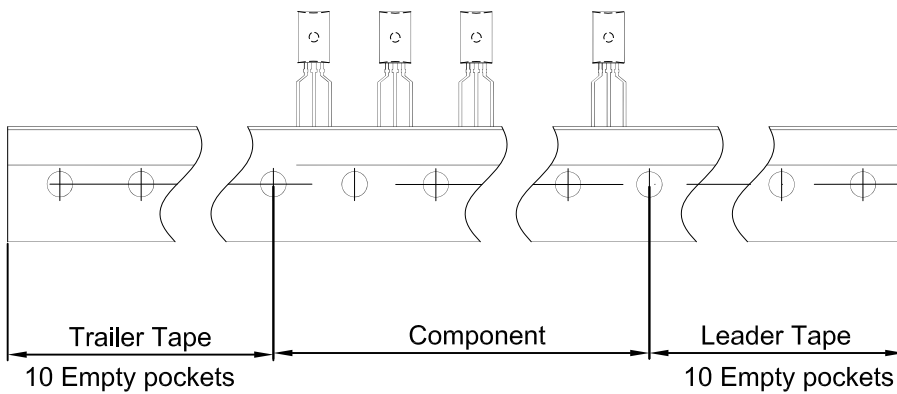
### NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

# 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