

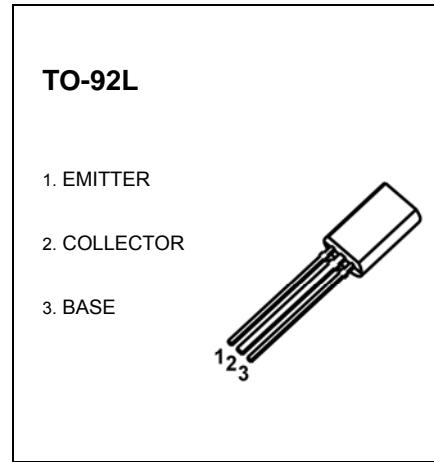


**TO-92L Plastic-Encapsulate Transistors**

**2SC2383** TRANSISTOR (NPN)

**FEATURE**

- High Voltage:  $V_{CEO}=160V$
- Large Continuous Collector Current Capability
- Complementary to 2SA1013



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

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	160	V
$V_{CEO}$	Collector-Emitter Voltage	160	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current -Continuous	1	A
$P_C$	Collector Power Dissipation	0.75	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55 to +150	$^\circ\text{C}$

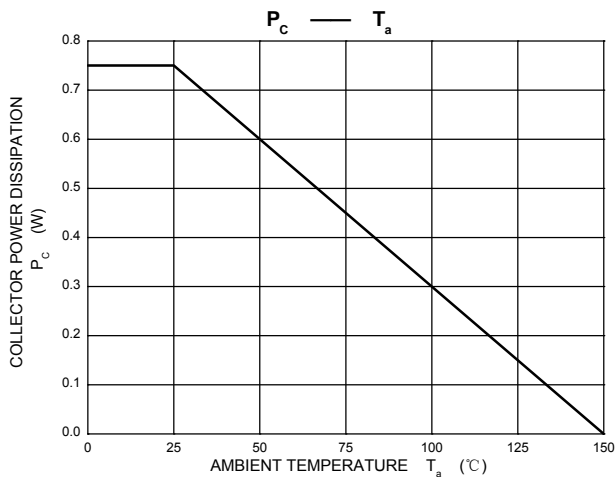
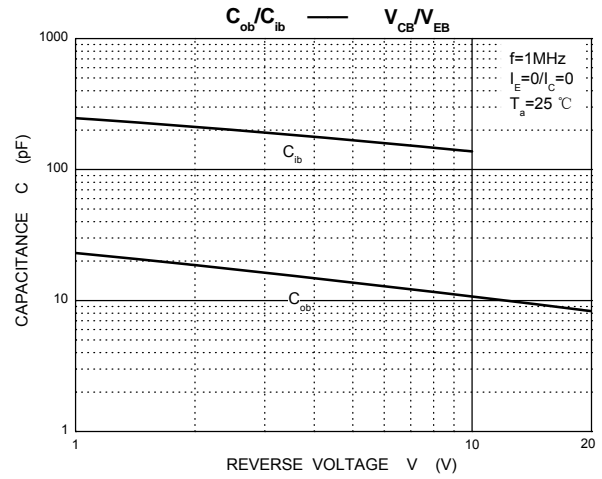
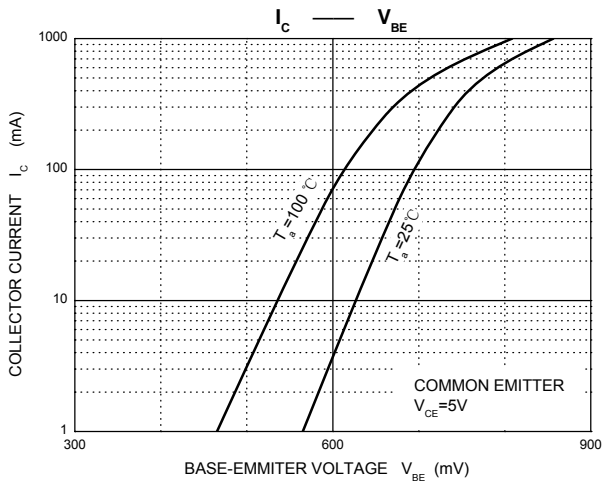
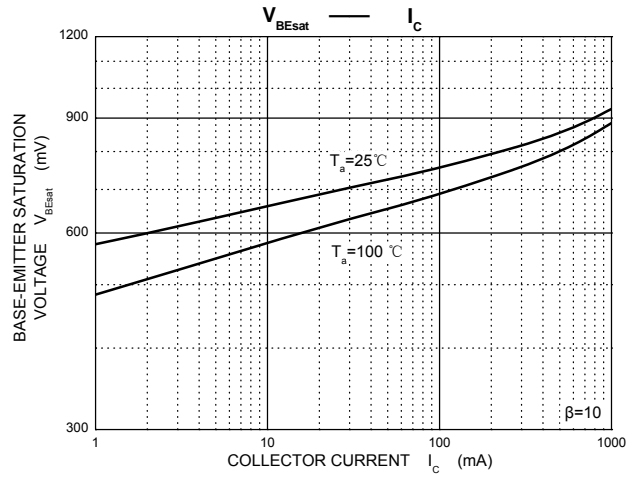
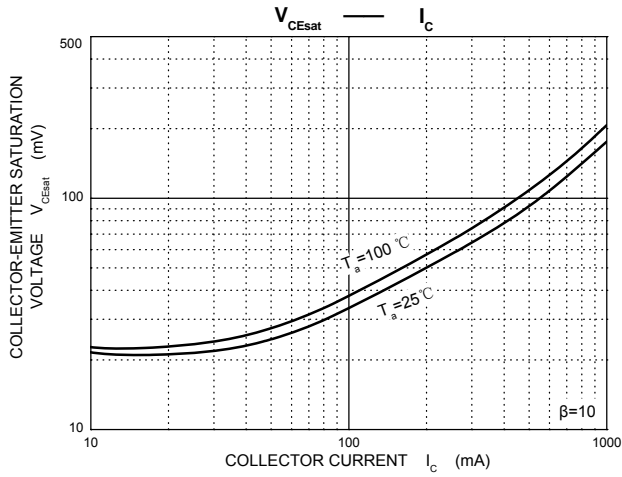
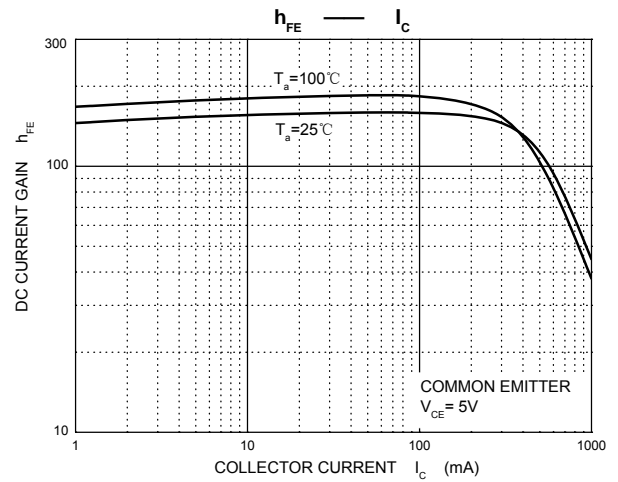
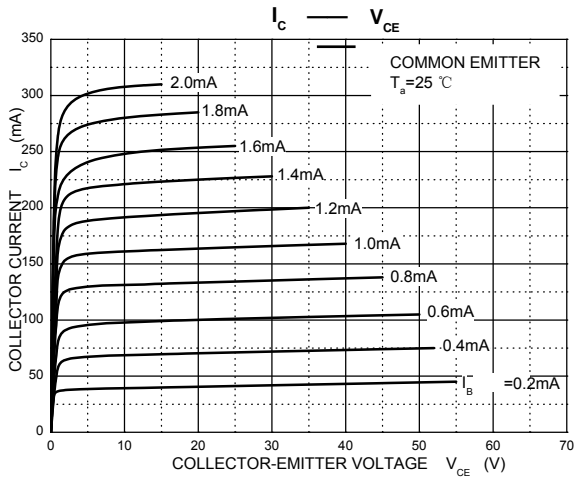
**ELECTRICAL CHARACTERISTICS** ( $T_a=25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V(BR)_{CBO}$	$I_C=100\mu\text{A}, I_E=0$	160		V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	$I_C=10\text{mA}, I_B=0$	160		V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E=10\mu\text{A}, I_C=0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=150V, I_E=0$		1	$\mu\text{A}$
Collector cut-off current	$I_{CER}$	$V_{CB}=150V, R_{EB}=10M\Omega$		10	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=6V, I_C=0$		1	$\mu\text{A}$
DC current gain	$h_{FE1}$	$V_{CE}=5V, I_C=200\text{mA}$	60	320	
	$h_{FE2}$	$V_{CE}=5V, I_C=10\text{mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1	V
Base-emitter voltage	$V_{BE}$	$I_C=5\text{mA}, V_{CE}=5V$		0.75	V
Transition frequency	$f_T$	$V_{CE}=5V, I_C=200\text{mA}$	20		MHz

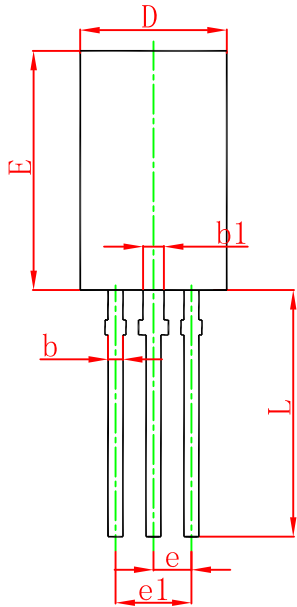
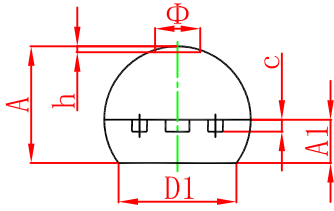
**CLASSIFICATION OF  $h_{FE1}$**

Rank	R	O	Y
Range	60-120	100-200	160-320

# Typical Characteristics

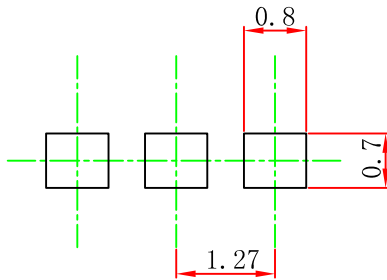


## TO-92L Package Outline Dimensions



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



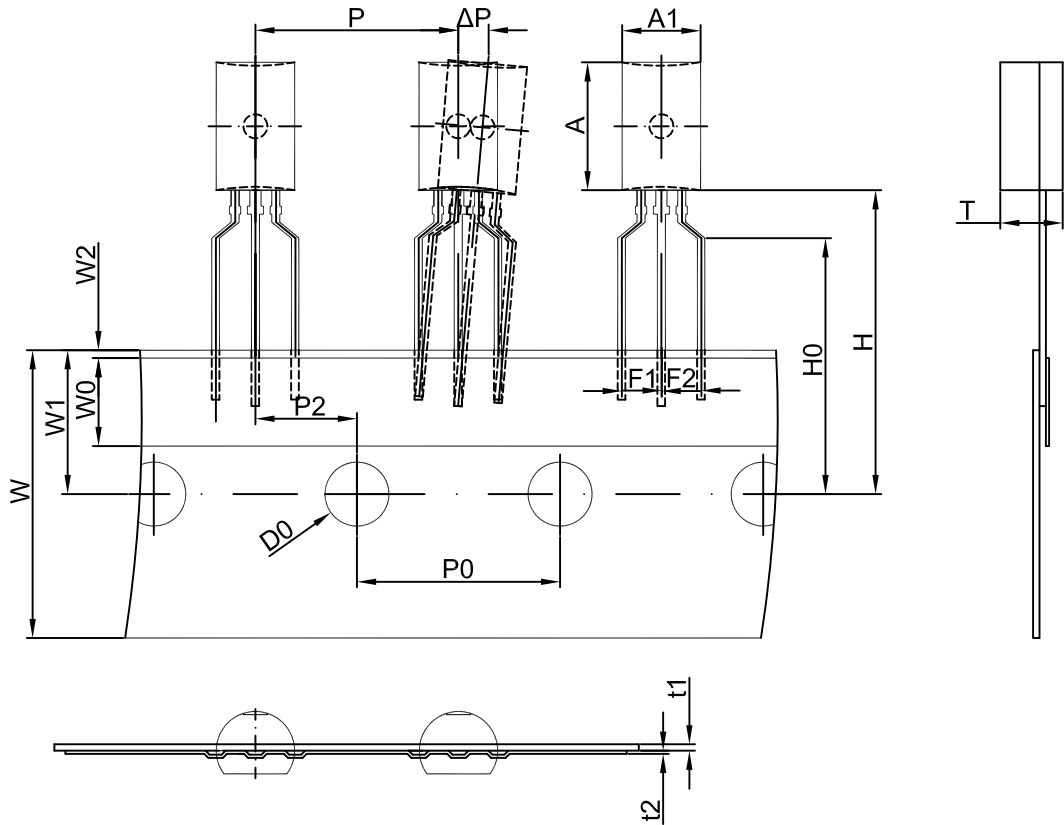
### Note:

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

### NOTICE

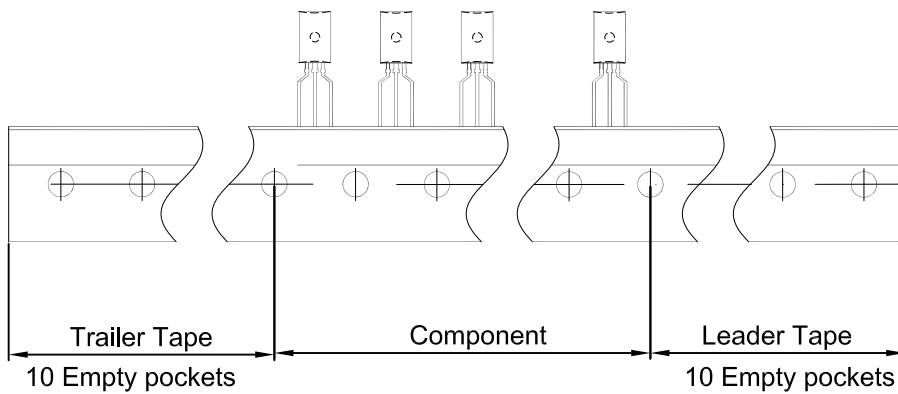
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# TO-92L PACKAGE TAPING DIMENSION



**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