



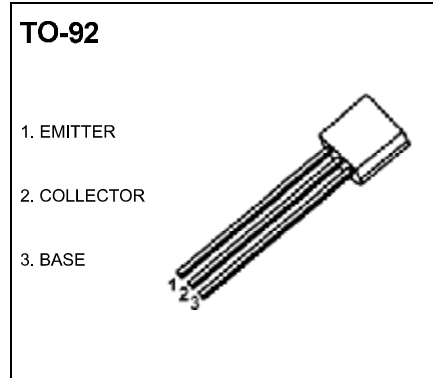
DONGGUAN NANJING ELECTRONICS LTD.,

TO-92 Plastic-Encapsulate Transistors

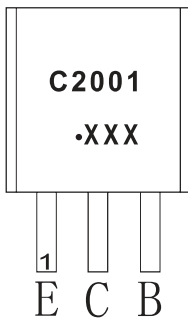
2SC2001 TRANSISTOR (NPN)

FEATURES

- High h_{FE} and Low $V_{CE(sat)}$
 - $h_{FE}(I_C=100mA) : 200(Typ)$
 - $V_{CE(sat)}(700mA) : 0.2V (Typ)$

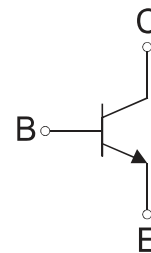


MARKING



C2001=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
2SC2001	TO-92	Bulk	1000pcs/Bag
2SC2001-TA	TO-92	Tape	2000pcs/Box

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	700	mA
P_C	Collector Power Dissipation	600	mW
T_j	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature	-55-150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS

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

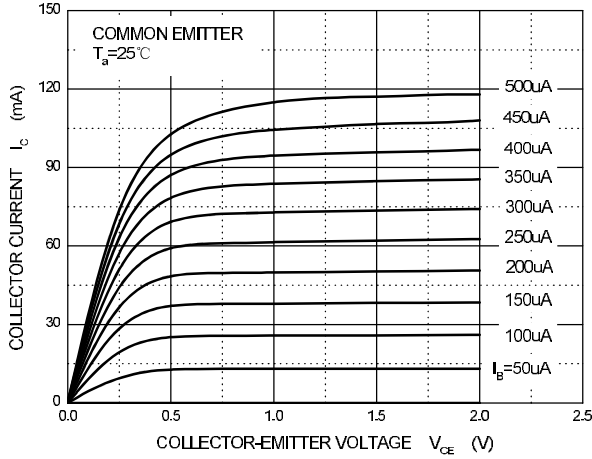
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$, $I_E=0$	30		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}$, $I_B=0$	25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$, $I_C=0.5$			V
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{ V}$, $I_E=0$		0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=20\text{ V}$, $I_B=0$		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}	$V_{CE}=1\text{V}$, $I_C=100\text{mA}$ 90		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=700\text{mA}$, $I_B=70\text{mA}$		0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=700\text{mA}$, $I_B=70\text{mA}$		1.2	V
Transition frequency	f_T	$V_{CE}=6\text{V}$, $I_C=10\text{mA}$ $f=30\text{MHz}$	50		MHz

CLASSIFICATION OF h_{FE}

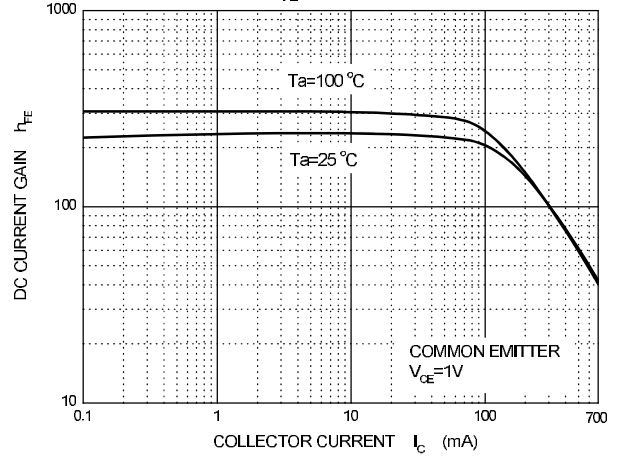
Rank	M	L	K
Range	90-180 135-	270	200-400

Typical Characteristics

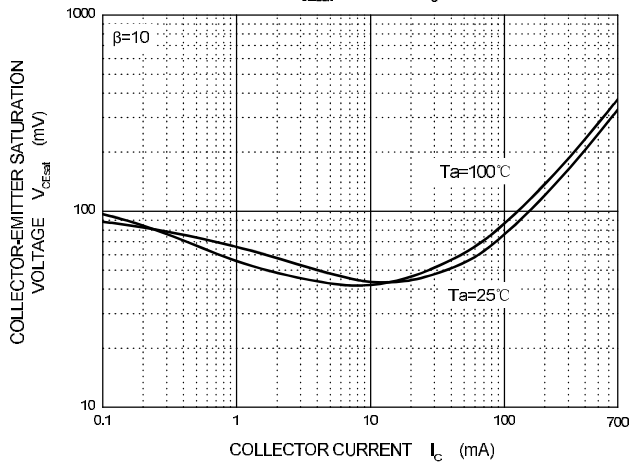
Static Characteristic



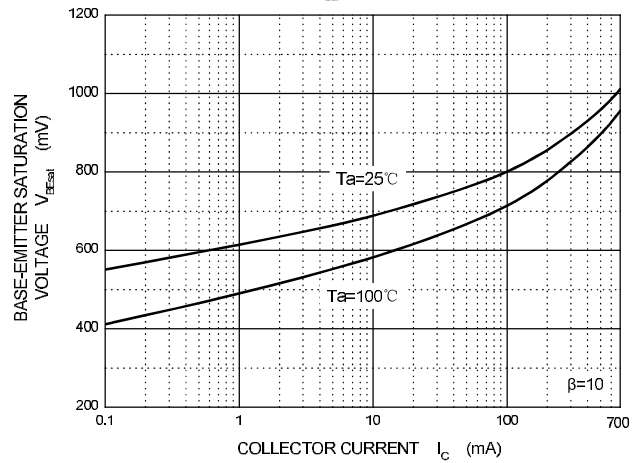
h_{FE} — I_C



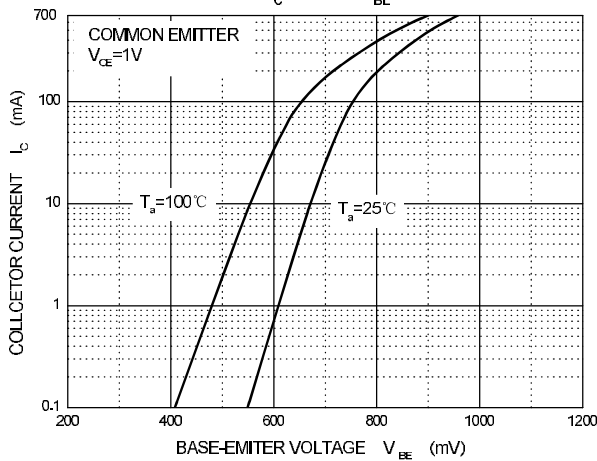
V_{CEsat} — I_C



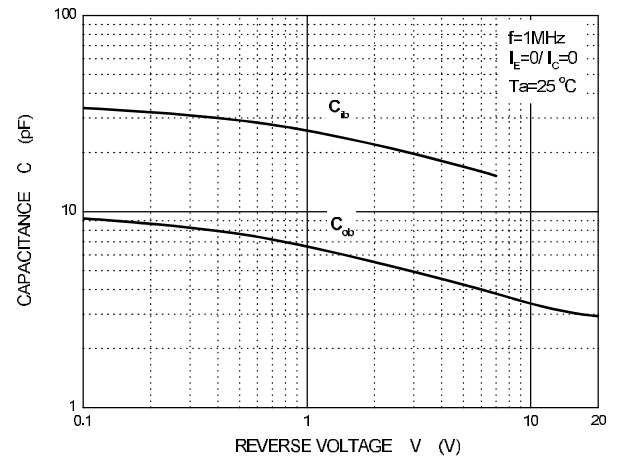
V_{BEsat} — I_C



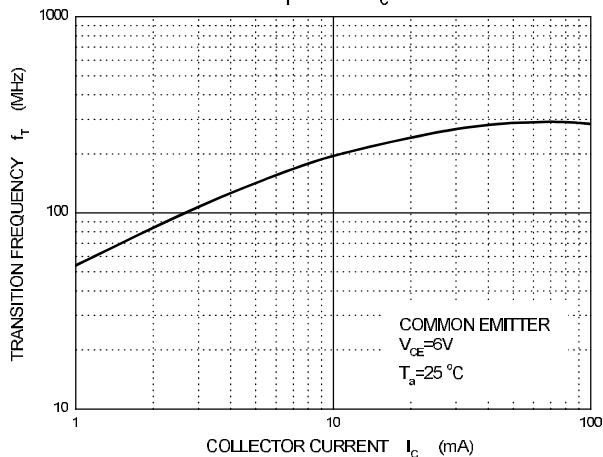
I_C — V_{BE}



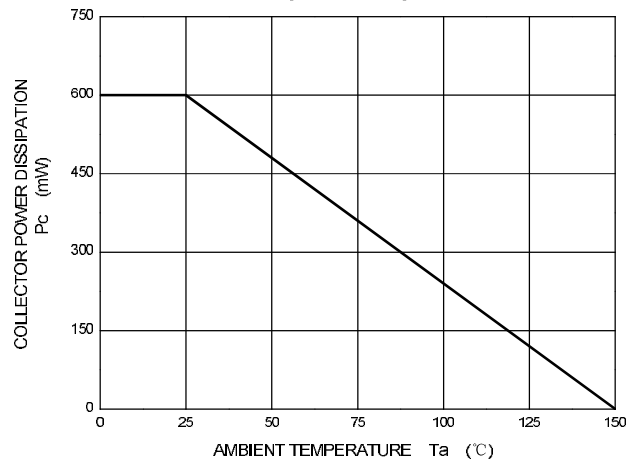
C_{cb}/C_{cb} — V_{CB}/V_{EB}



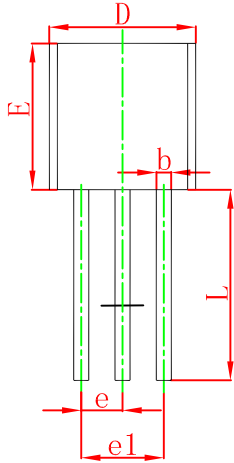
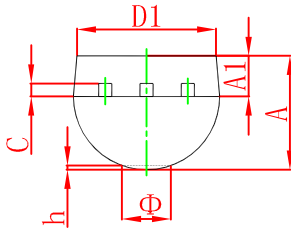
f_T — I_C



P_c — T_a

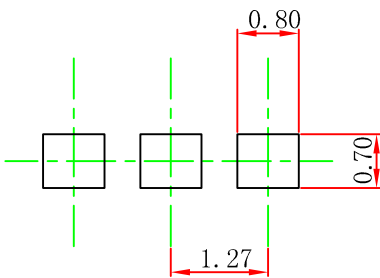


TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

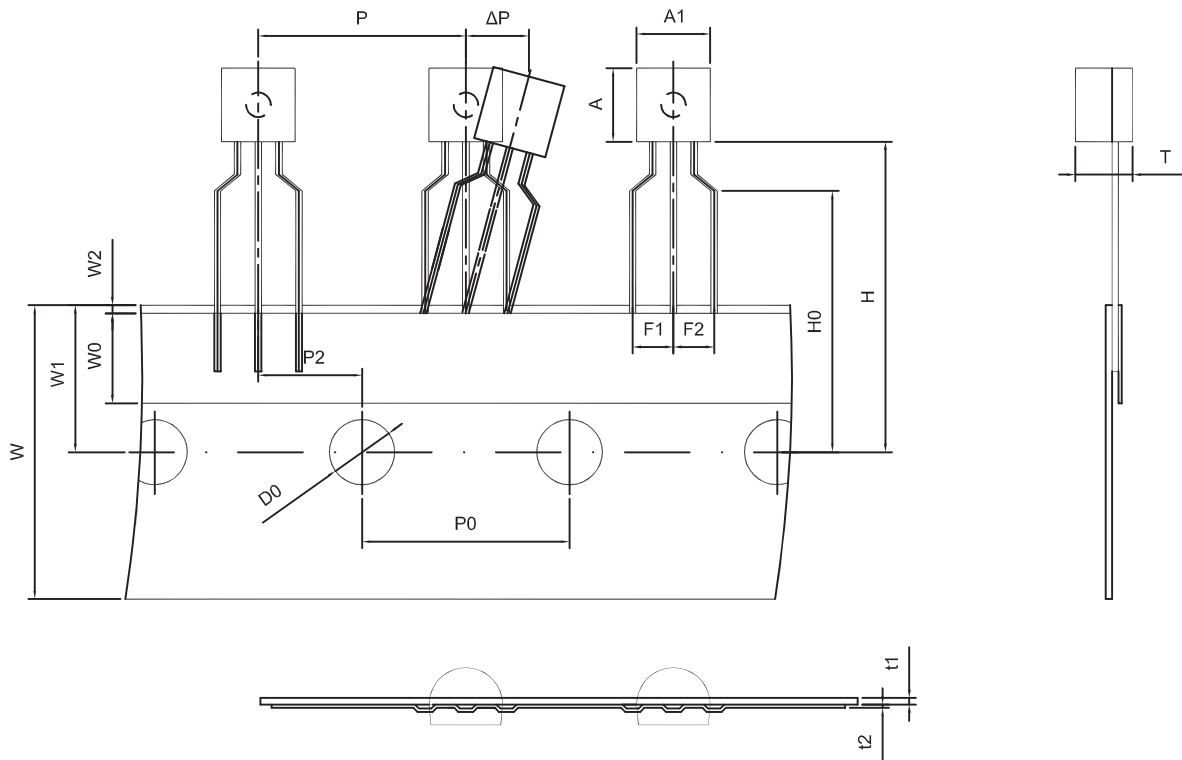
TO-92 Suggested Pad Layout



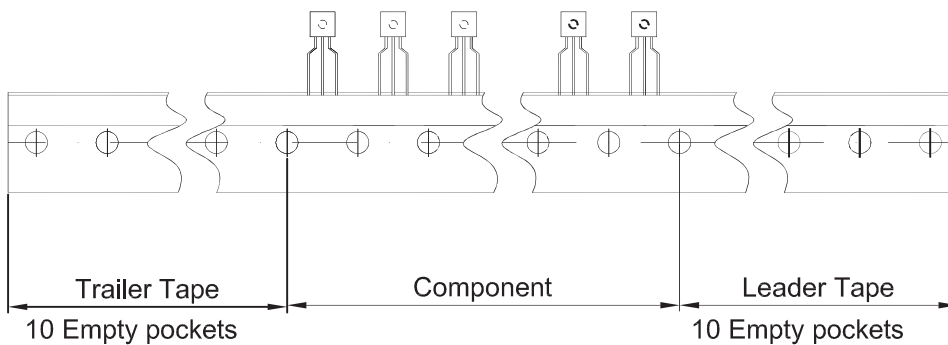
Note:

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

TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	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 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250