

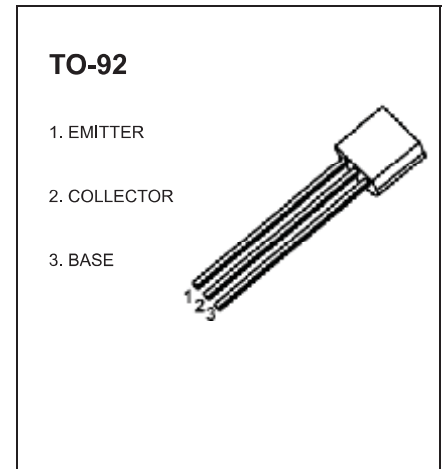


# DONGGUAN NANJING ELECTRONICS LTD., TO-92 Plastic-Encapsulate Transistors

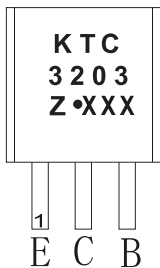
## KTC3203 TRANSISTOR (NPN)

### FEATURES

- Complementary to KTA1271

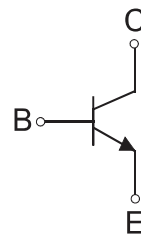


### MARKING



KTC3203=Device code  
Solid dot=Green molding compound device,  
if none,the normal device  
Z=Rank of  $h_{FE}$ ,  
XXX=Code

### Equivalent Circuit



### ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
KTC3203	TO-92	Bulk	1000pcs/Bag
KTC3203-TA	TO-92	Tape	2000pcs/Box

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

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	35	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	0.8	A
P <sub>D</sub>	Collector Power Dissipation	625	mW
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	200	°C /W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C

## ELECTRICAL CHARACTERISTICS

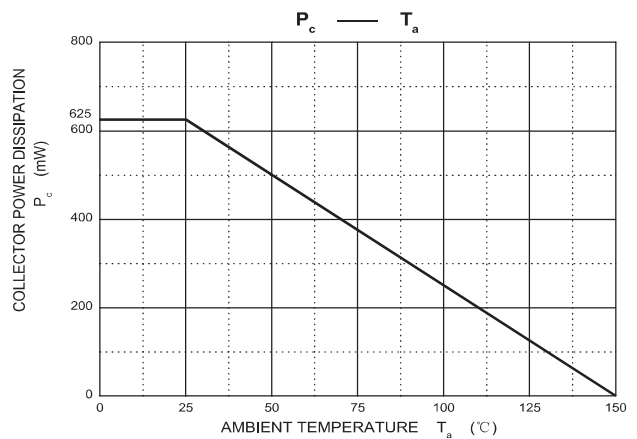
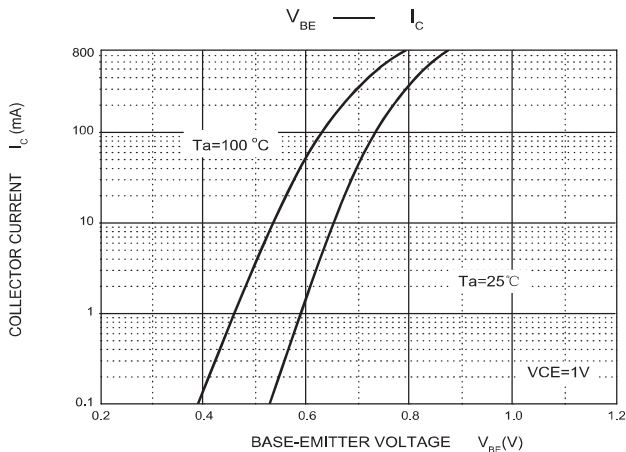
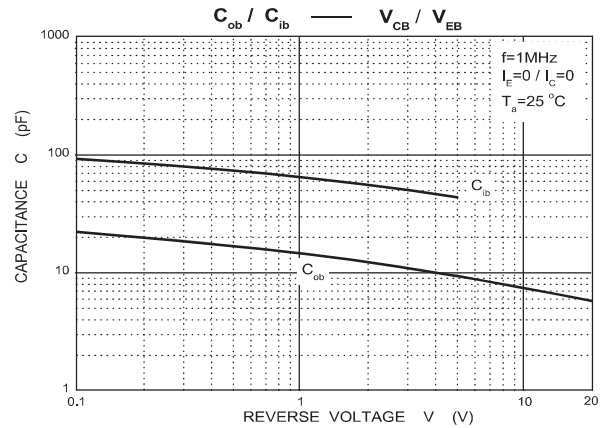
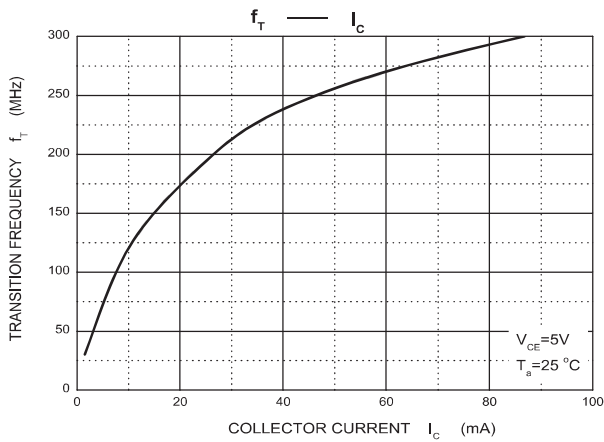
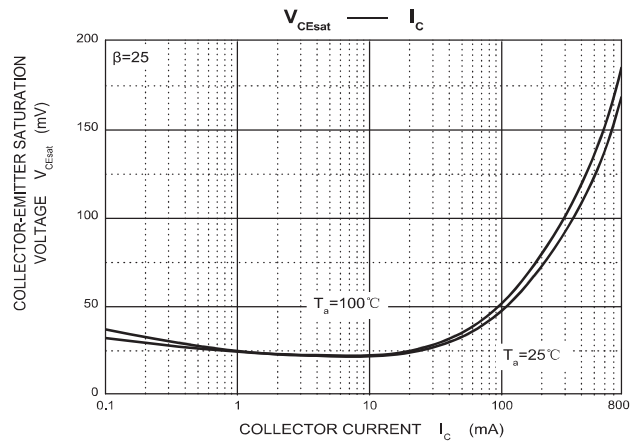
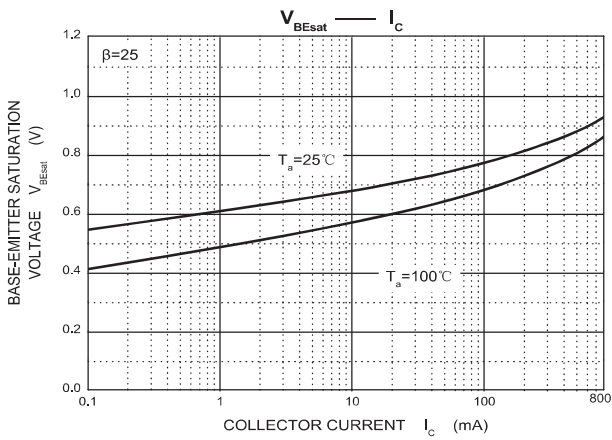
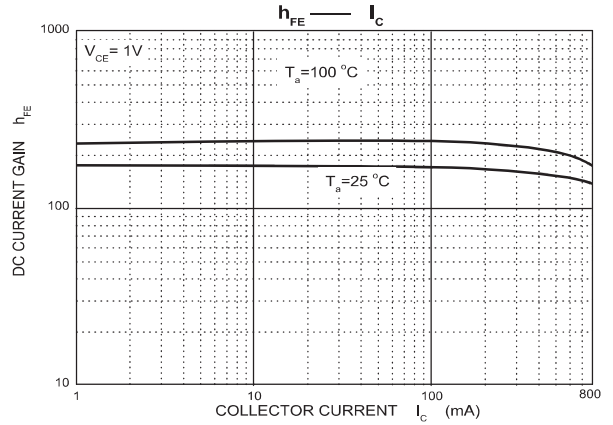
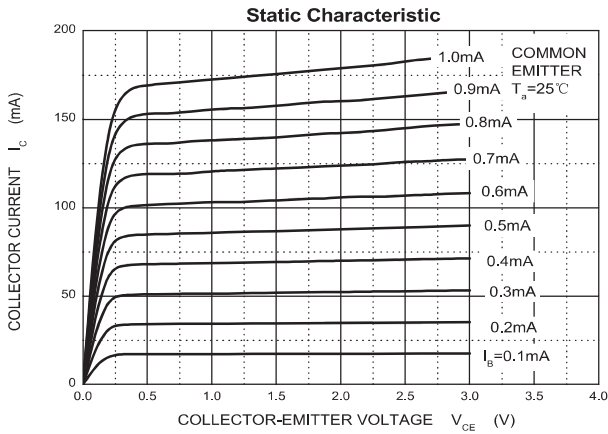
$T_a=25\text{ }^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 0.1\text{mA}, I_B=0$	35			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B=0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 0.1\text{mA}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}= 35\text{V}, I_E=0$			0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE}= 25\text{V}, I_B=0$			0.2	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}= 5\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C= 100\text{mA}$	100		320	
	$h_{FE(2)}$	$V_{CE}=1\text{V}, I_C= 700\text{mA}$	35			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C= 500\text{ mA}, I_B= 20\text{mA}$			0.5	V
Base-emitter voltage	$V_{BE}$	$V_{CE}= 1\text{V}, I_C= 10\text{mA}$			0.8	V
Transition frequency	$f_T$	$V_{CE}= 5\text{ V}, I_C= 10\text{mA}$		120		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E= 0, f=1\text{MHz}$		13		pF

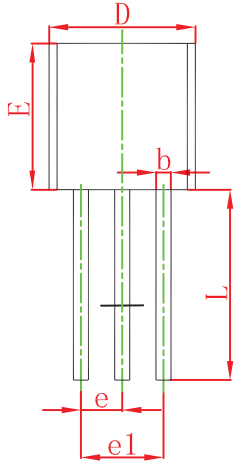
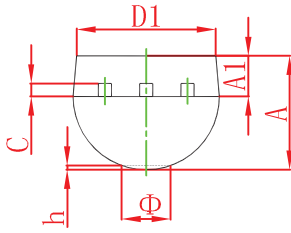
### CLASSIFICATION OF $h_{FE(1)}$

Rank	O	Y
Range	100-200	160-320

# Typical Characteristics

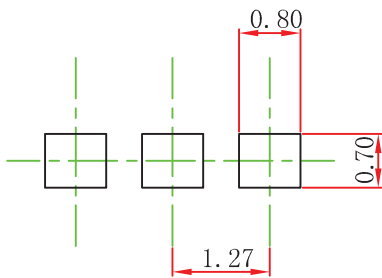


## TO-92 Package Outline Dimensions



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

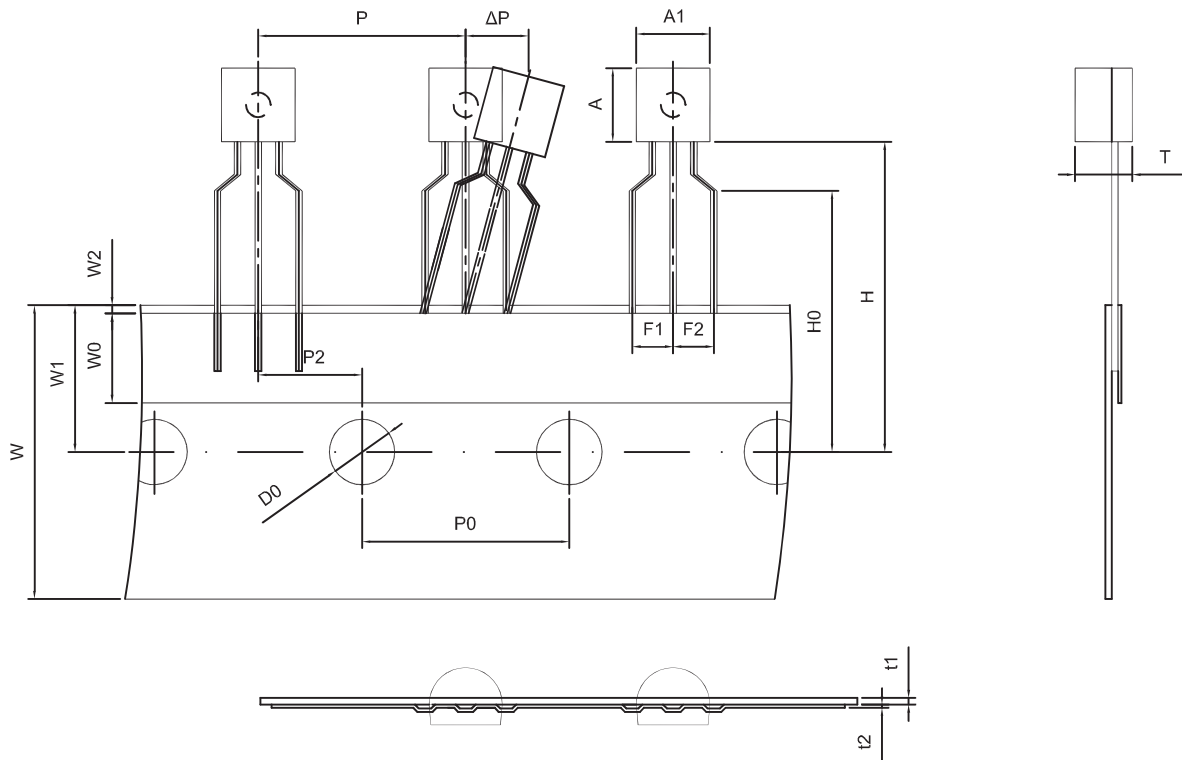
## TO-92 Suggested Pad Layout



### Note:

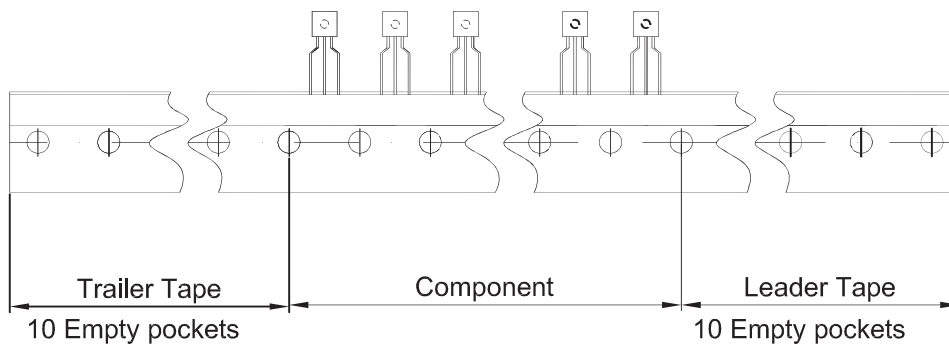
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$ mm.
3. The pad layout is for reference purposes only.

TO-92 PACKAGE TAPING DIMENSION



Dimensions 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