



DONGGUAN NANJING ELECTRONICS LTD.,

## TO-92 Plastic-Encapsulate Transistors

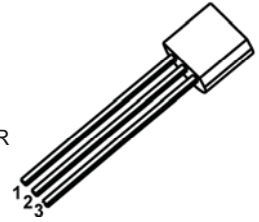
**2SA1625** TRANSISTOR (PNP)

### FEATURES

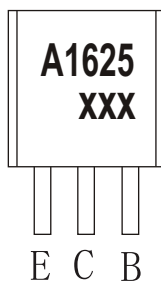
- High Voltage
- High Speed Switching
- Low Collector Saturation Voltage

TO - 92

1. EMITTER
2. COLLECTOR
3. BASE

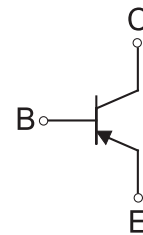


### MARKING



A1625=Device code  
XXX=Code

### Equivalent Circuit



### ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SA1625	TO-92	Bulk	1000pcs/Bag
2SA1625-TA	TO-92	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	-400	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-400	V
V <sub>EBO</sub>	Emitter-Base Voltage	-7	V
I <sub>c</sub>	Collector Current -Continuous	-0.5	A
P <sub>D</sub>	Collector Power Dissipation	750	mW
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	166	°C /W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150	°C

## ELECTRICAL CHARACTERISTICS

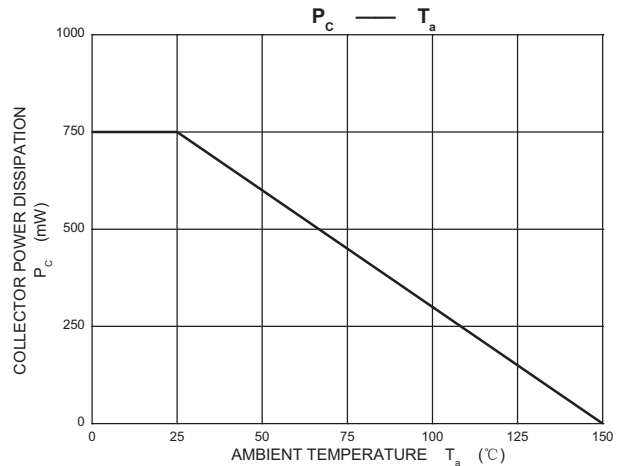
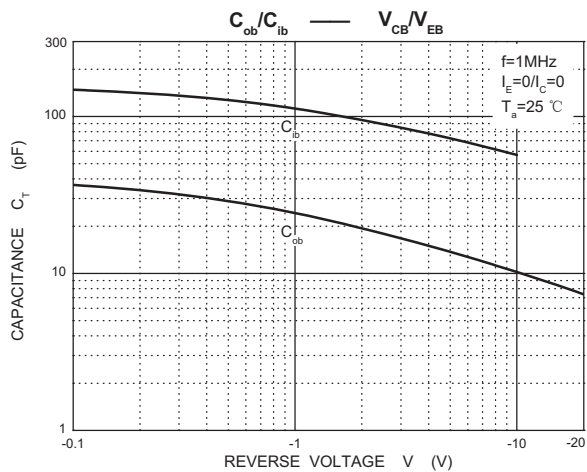
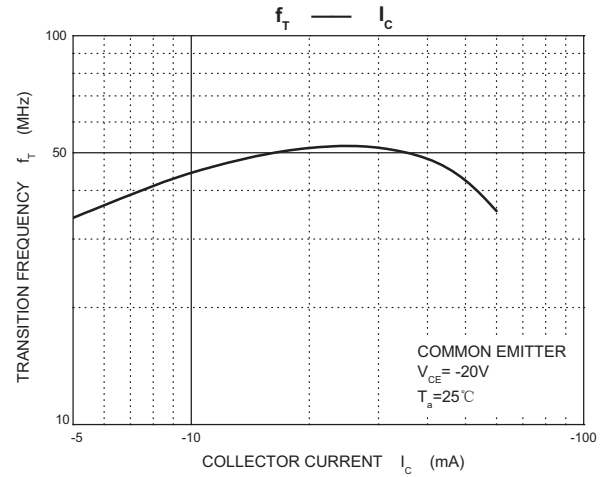
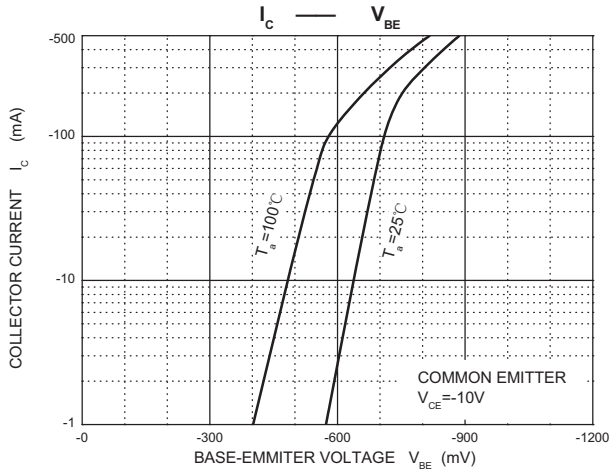
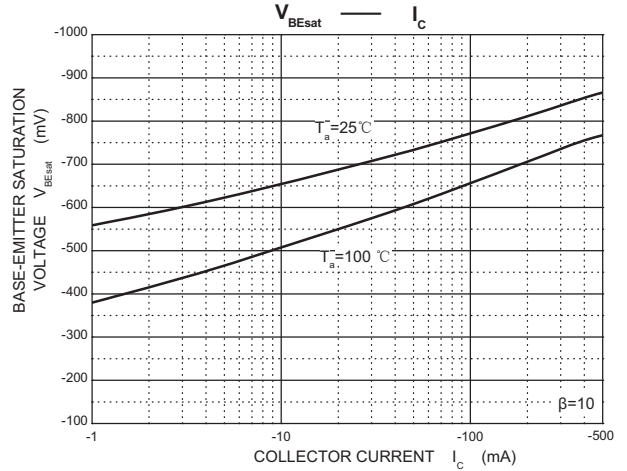
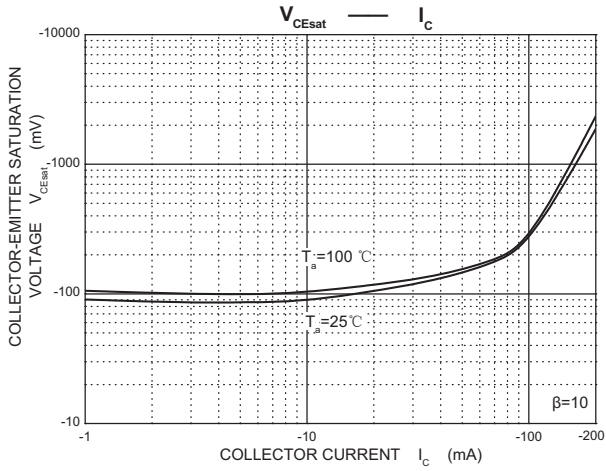
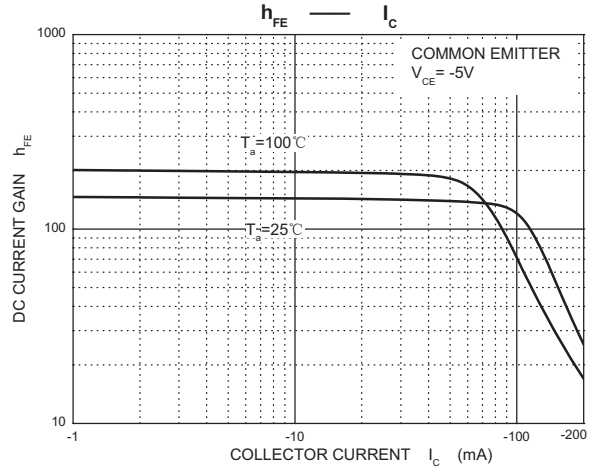
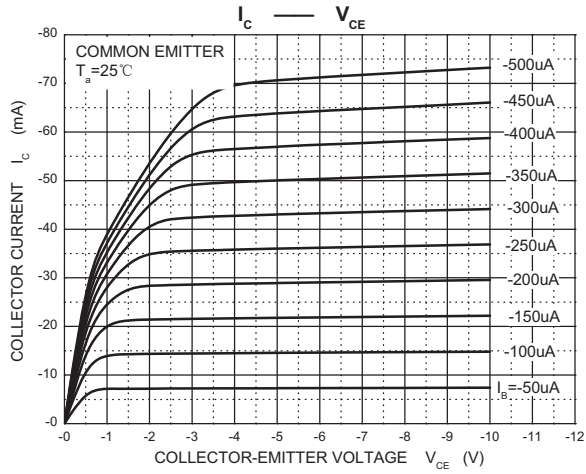
$T_a=25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -0.1\text{mA}, I_E = 0$	-400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -0.1\text{mA}, I_C = 0$	-7			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -400\text{V}, I_E = 0$			-10	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$			-10	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE} = -5\text{V}, I_C = -50\text{mA}$	40		200	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$			-1.2	V
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$			20	pF
Transition frequency	$f_T$	$V_{CE} = -10\text{V}, I_C = -10\text{mA}$	20			MHz

### CLASSIFICATION OF $h_{FE}$

RANK	M	L	K
RANGE	40-80	60-120	100-200

# Typical Characteristics

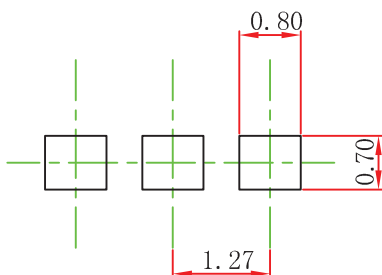


## TO-92 Package Outline Dimensions



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



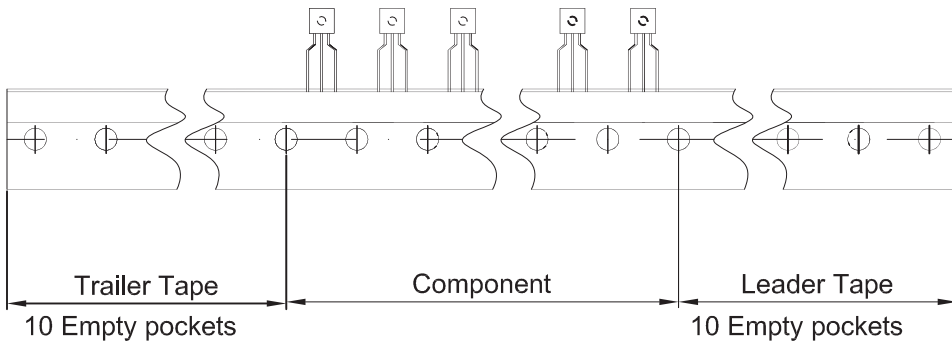
### Note:

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

# TO-92 Tape and Reel



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