JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92 Plastic-Encapsulate Transistors

8050SS   TRANSISTOR (NPN)

### FEATURES

● General Purpose Switching and Amplification.

TO – 92

1. EMITTER

2. COLLECTOR

3. BASE

MARKING

8050SS

Z ・XXX

1

E C B
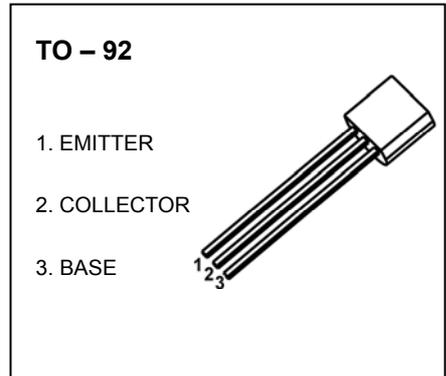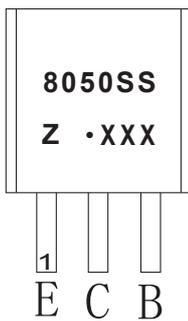
8050SS=Device code

Solid dot=Green molding compound device,

if none,the normal device

Z=Rank of h_{FE}

XXX=Code

Equivalent Circuit

C

B

E
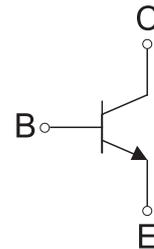
ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
8050SS	TO-92	Bulk	1000pcs/Bag
8050SS-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T$_a$=25℃ unless otherwise noted)

Symbol Para	meter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	1.5	A
P_C	Collector Power Dissipation	1	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	125	℃ /W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

ELECTRICAL CHARACTERISTICS

T$_a$=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V$_{(BR)CBO}$	I$_C$= 0.1mA,I$_E$=0	40			V
Collector-emitter breakdown voltage	V$_{(BR)CEO}$	I$_C$=0.1mA,I$_B$=0	25			V
Emitter-base breakdown voltage	V$_{(BR)EBO}$	I$_E$=0.1mA,I$_C$=0	5			V
Collector cut-off current	I$_{CBO}$	V$_{CB}$=40V,I$_E$=0			0.1	µA
Collector cut-off current	I$_{CEO}$	V$_{CE}$=20V,I$_B$=0			0.1	µA
Emitter cut-off current	I$_{EBO}$	V$_{EB}$=5V,I$_C$=0			0.1	µA
DC current gain	h$_{FE(1)}$	V$_{CE}$=1V, I$_C$=100mA	85		300	
	h$_{FE(2)}$	V$_{CE}$=1V, I$_C$=800mA	40			
Collector-emitter saturation voltage	V$_{CE(sat)}$	I$_C$=800mA,I$_B$=80mA			0.5	V
Base-emitter saturation voltage	V$_{BE (sat)}$	I$_C$=800mA,I$_B$=80mA			1.2	V
Base-emitter voltage	V$_{BE}$	V$_{CE}$=1V, I$_C$=10mA			1.0	V
Collector output capacitance	C$_{ob}$	V$_{CB}$=10V,I$_E$=0, f=1MHz			15	pF
Transition frequency	f$_T$	V$_{CE}$=10V,I$_C$= 50mA, f=30MHz	100			MHz

CLASSIFICATION OF h$_{FE(1)}$

RANK	B C D		
RANGE	85-160	120-200	160-300

Typical Characteristics

Static Characteristic

h_{FE} — I_C

V_{CEsat} — I_C

V_{BEsat} — I_C

I_C — V_{BE}

C_{ob}/C_{ib} — V_{CB}/V_{EB}

f_T — I_C

P_C — T_a
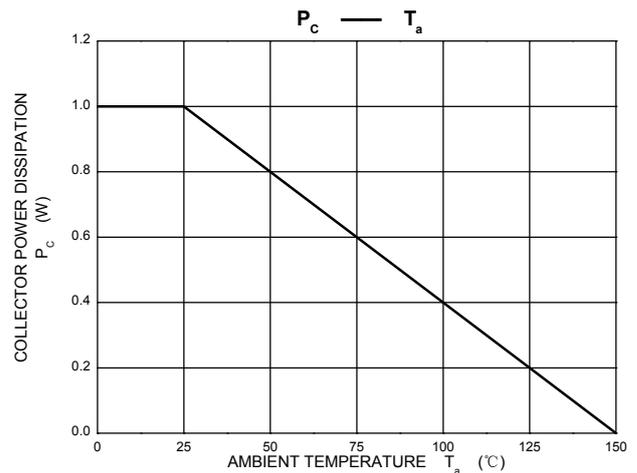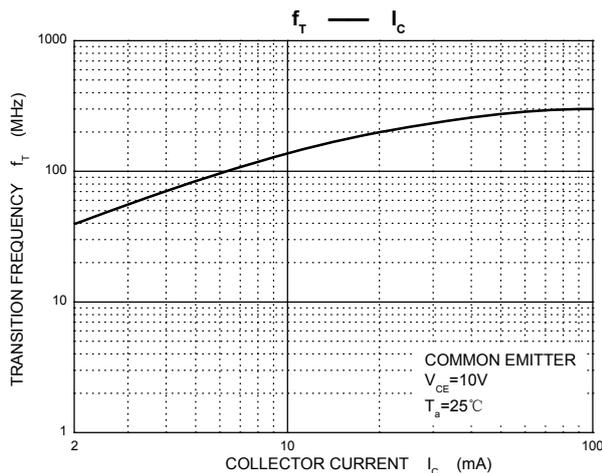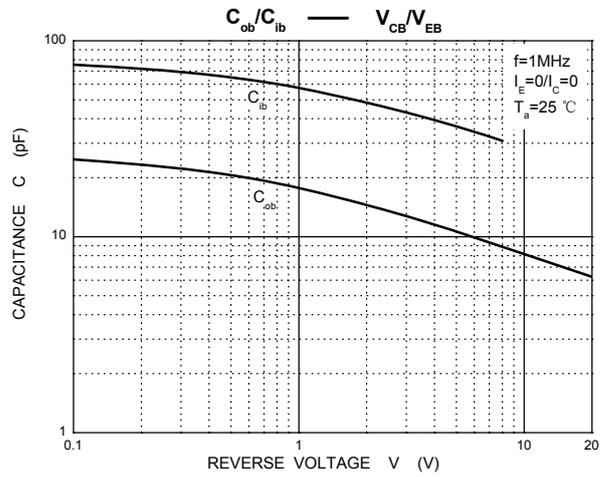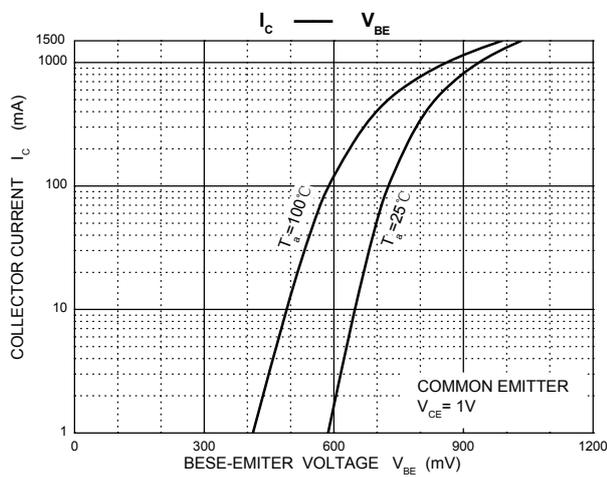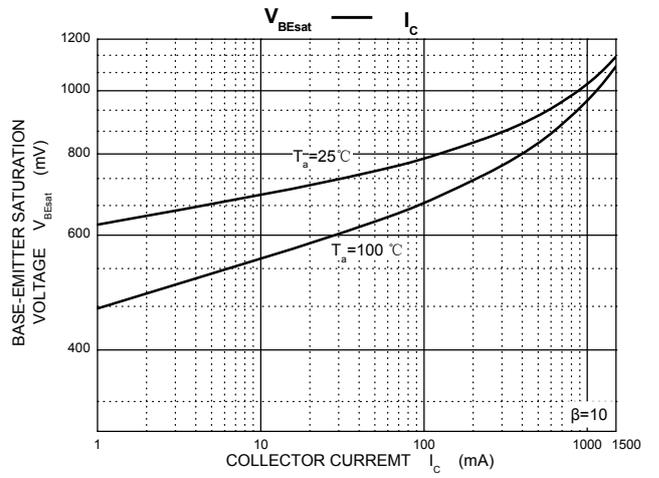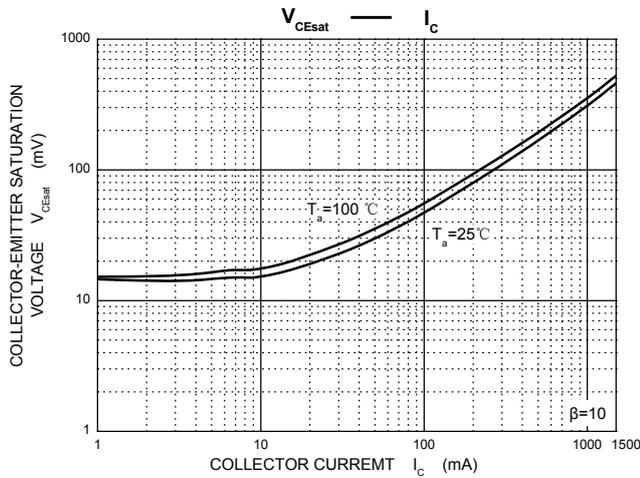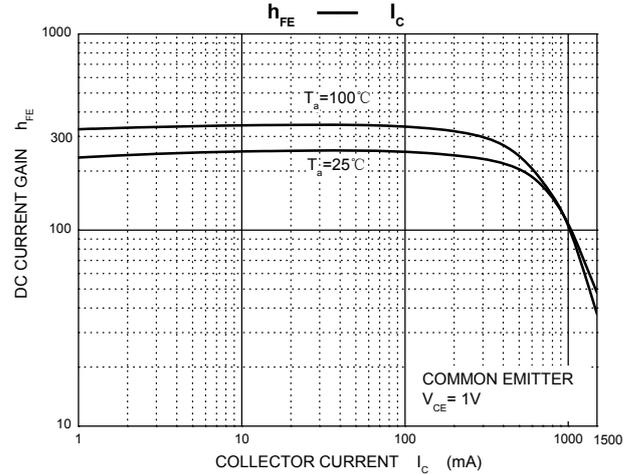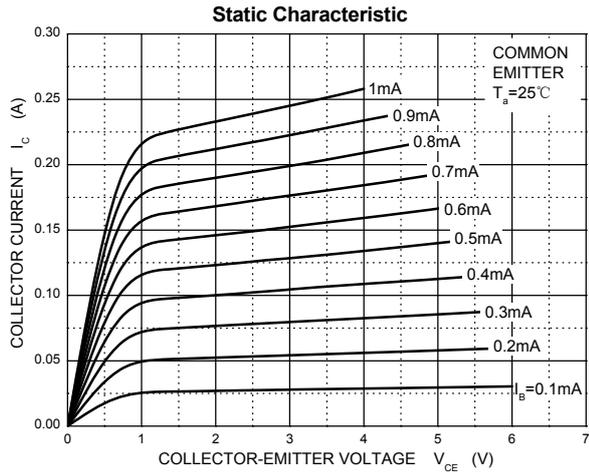
TO-92 Package Outline Dimensions
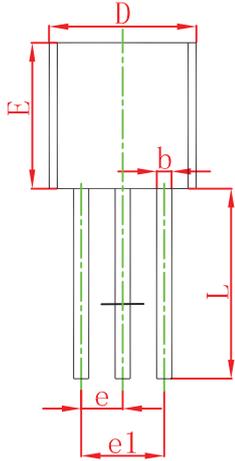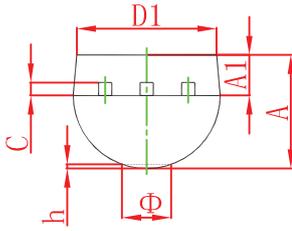
| Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	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
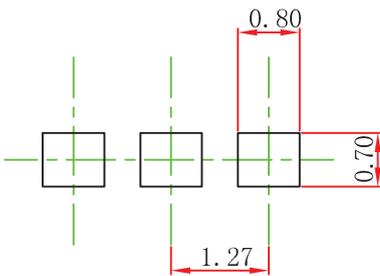
Note:
1. Controlling dimension:in millimeters.
2. General tolerance:± 0.05mm.
3. The pad layout is for reference purposes only.

NOTICE

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TO-92 PACKAGE TAPEING DIMENSION
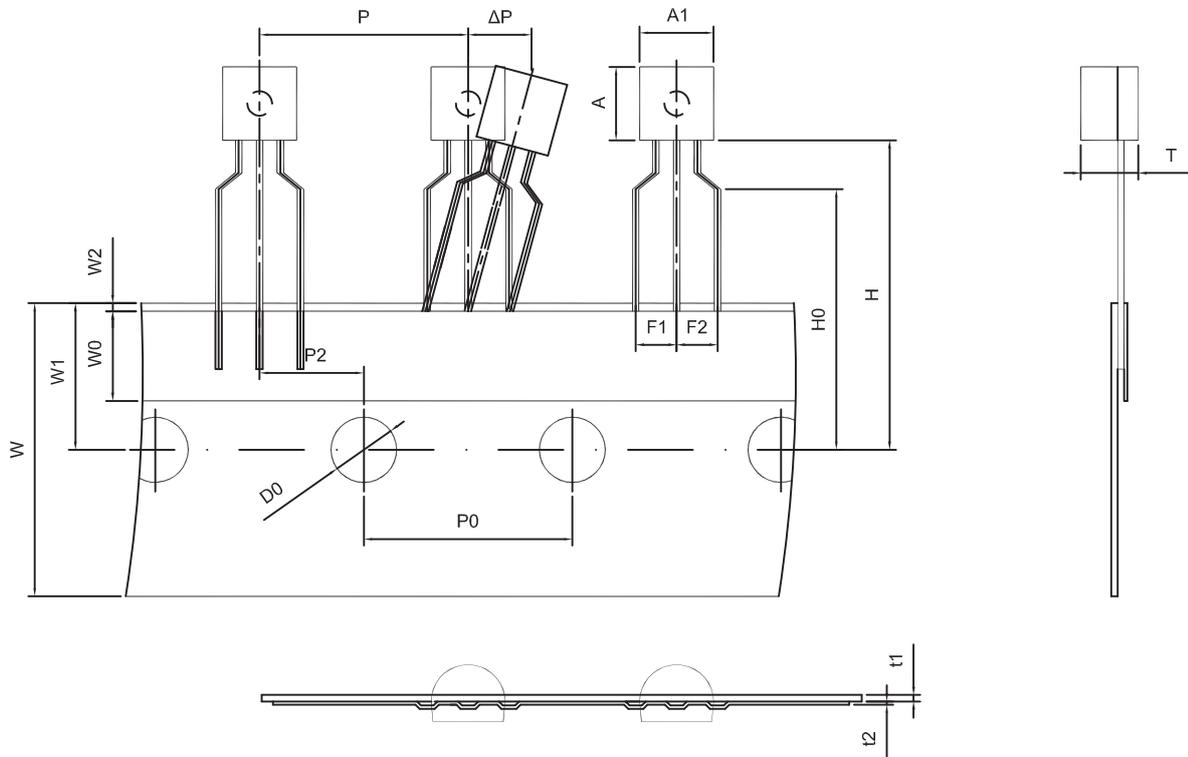
Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0

Trailer Tape	Component	Leader Tape
10 Empty pockets		10 Empty pockets
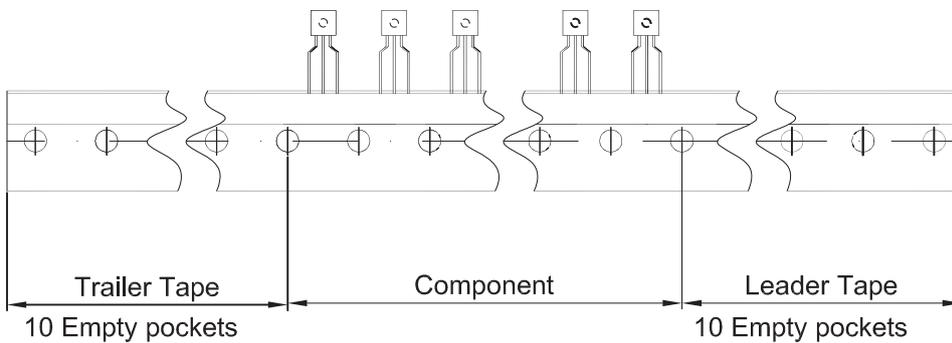
Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250

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