



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD  
**TO-92 Plastic-Encapsulate Transistors**

**8050SS** TRANSISTOR ( NPN )

**FEATURES**

Power dissipation

$$P_{CM} : 1 \text{ W} \quad (T_{amb}=25 \text{ } ^\circ\text{C})$$

Collector current

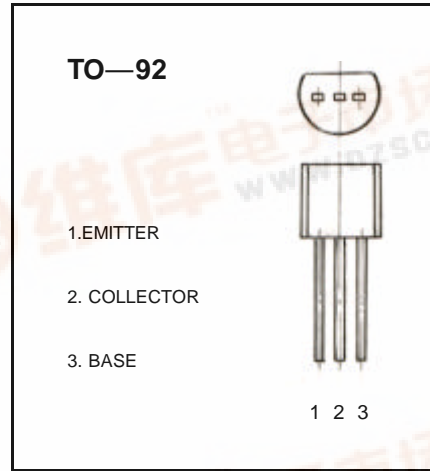
$$I_{CM} : 1.5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 40 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg} : -55 \text{ to } +150$$



**ELECTRICAL CHARACTERISTICS ( Tamb=25 unless otherwise specified )**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu A, I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 0.1 \text{ mA}, I_B = 0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu A, I_C = 0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 40 \text{ V}, I_E = 0$			0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE} = 20 \text{ V}, I_B = 0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5 \text{ V}, I_C = 0$			0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE} = 1 \text{ V}, I_C = 100 \text{ mA}$	85		300	
	$h_{FE(2)}$	$V_{CE} = 1 \text{ V}, I_C = 800 \text{ mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 800 \text{ mA}, I_B = 80 \text{ mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 800 \text{ mA}, I_B = 80 \text{ mA}$			1.2	V
Transition frequency	$f_T$	$V_{CE} = 10 \text{ V}, I_C = 50 \text{ mA}$ $f = 30 \text{ MHz}$	100			MHz

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

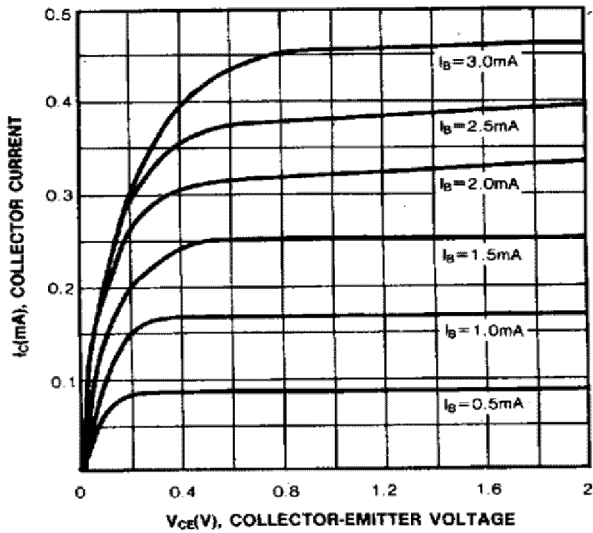
Rank	B	C	D
Range	85-160	120-200	160-300



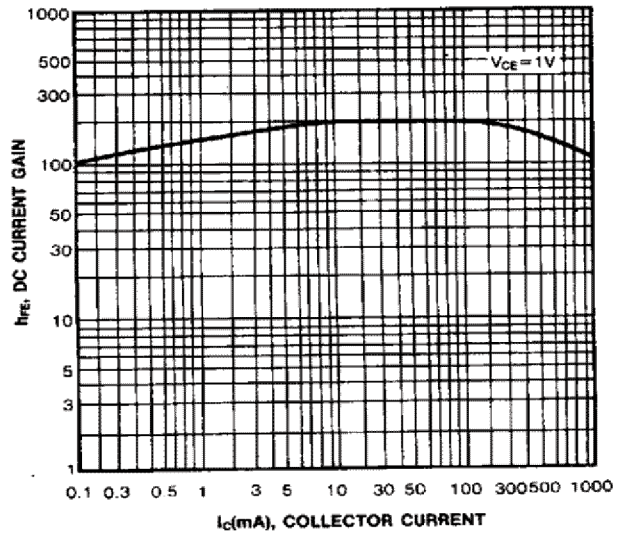
# Typical Characteristics

8050SS

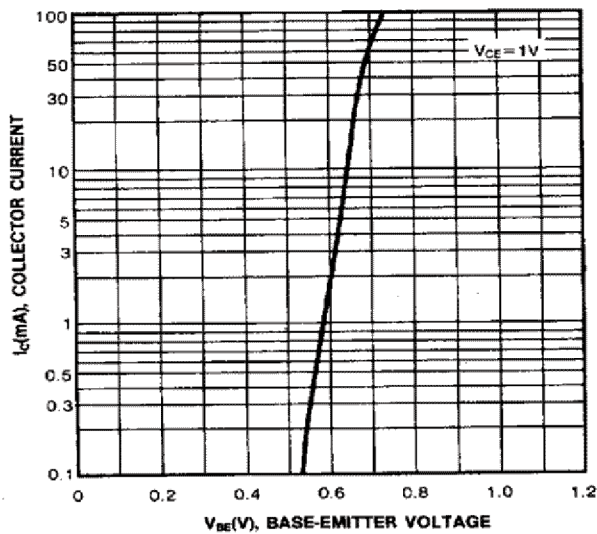
STATIC CHARACTERISTIC



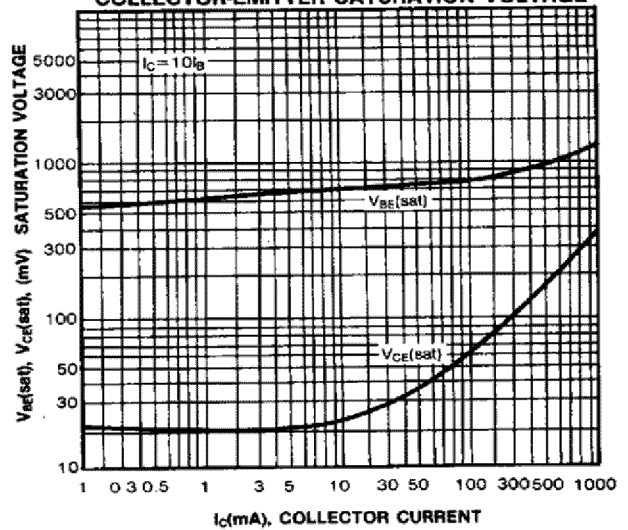
DC CURRENT GAIN



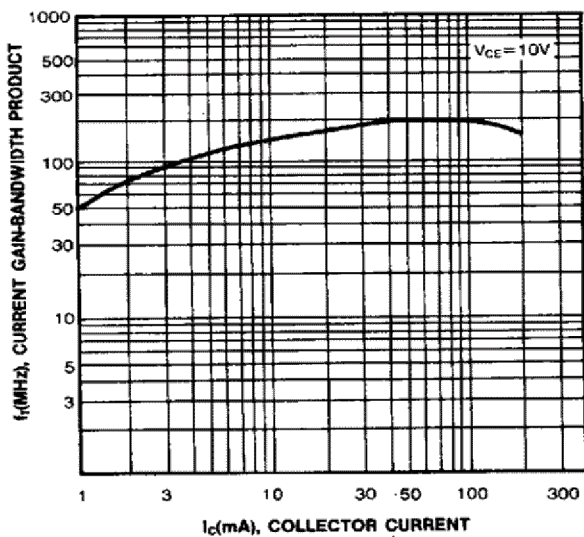
BASE-EMITTER ON VOLTAGE



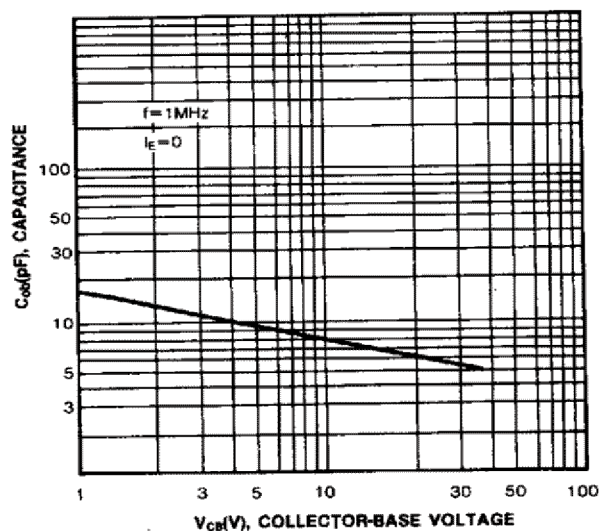
BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



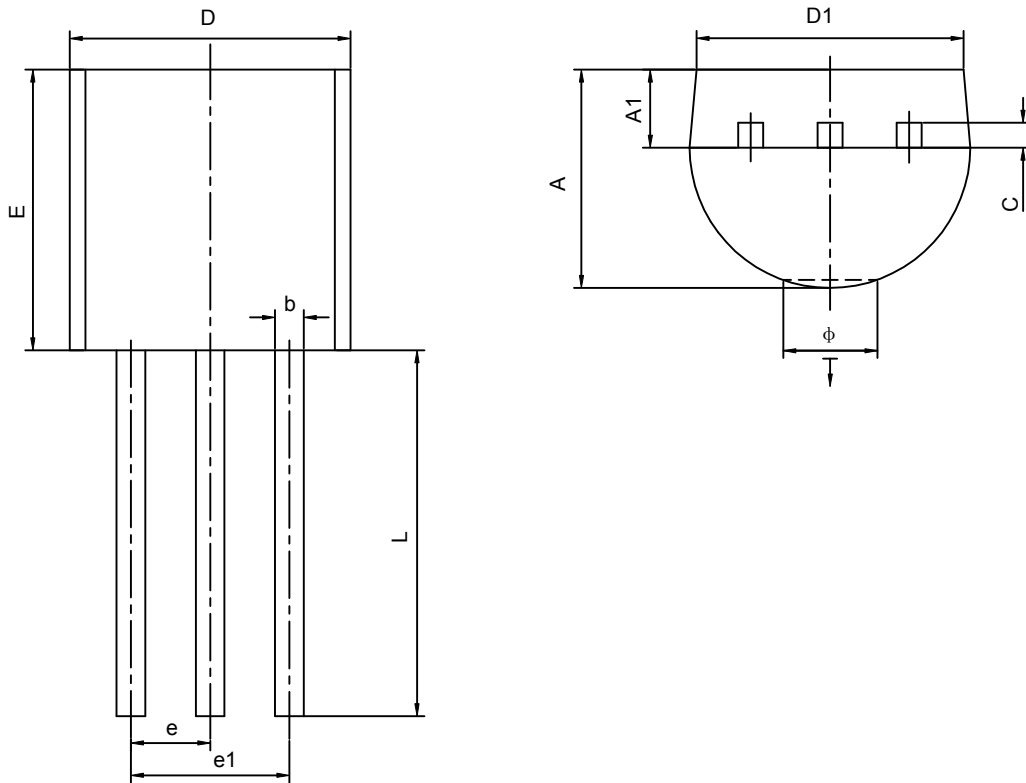
CURRENT GAIN-BANDWIDTH PRODUCT



COLLECTOR OUTPUT CAPACITANCE



## TO-92 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
<b>A</b>	3.300	3.700	0.130	0.146
<b>A1</b>	1.100	1.400	0.043	0.055
<b>b</b>	0.380	0.550	0.015	0.022
<b>c</b>	0.360	0.510	0.014	0.020
<b>D</b>	4.400	4.700	0.173	0.185
<b>D1</b>	3.430		0.135	
<b>E</b>	4.300	4.700	0.169	0.185
<b>e</b>	1.270TYP		0.050TYP	
<b>e1</b>	2.440	2.640	0.096	0.104
<b>L</b>	14.100	14.500	0.555	0.571
<b>Ö</b>		1.600		0.063
$\downarrow$	0.000	0.380	0.000	0.015