JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92 Plastic-Encapsulate Transistors

S8050 TRANSISTOR NPN

FEATURES

Power dissipation

P_{CM} : 0.625 W Tamb=25

Collector current

I_{CM} : 0.5 A
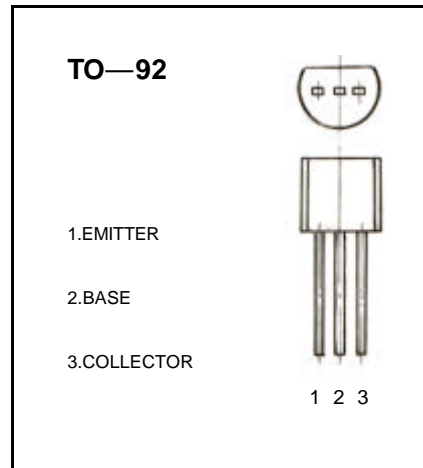
Collector-base voltage

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

Operating and storage junction temperature range

T_J T_{stg}: -55 to +150

TO—92

1.EMITTER

2.BASE

3.COLLECTOR

1 2 3

ELECTRICAL CHARACTERISTICS Tamb=25 unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	I_C= 100µ A , I_E=0	40			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	I_C= 0.1 mA I_B=0	25			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	I_E= 100µ A I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}= 40 V , I_E=0			0.1	µ A
Collector cut-off current	I_{CEO}	V_{CE}= 20 V , I_B=0			0.1	µ A
Emitter cut-off current	I_{EBO}	V_{EB}= 5 V I_C=0			0.1	µ A
DC current gain	$h_{FE\ 1}$	V_{CE}= 1 V, I_C= 50mA	85		300	
	$h_{FE\ 2}$	V_{CE}= 1 V, I_C= 500mA	50			
Collector-emitter saturation voltage	V_{CE}(sat)	I_C=500mA, I_B=50 mA			0.6	V
Base-emitter saturation voltage	V_{BE}(sat)	I_C=500mA, I_B=50 mA			1.2	V
Transition frequency	f_T	V_{CE}= 6 V, I_C=20mA f =30MHz	150			MHz

CLASSIFICATION OF $h_{FE(1)}$

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

Typical Characteristics

Static Characteristic
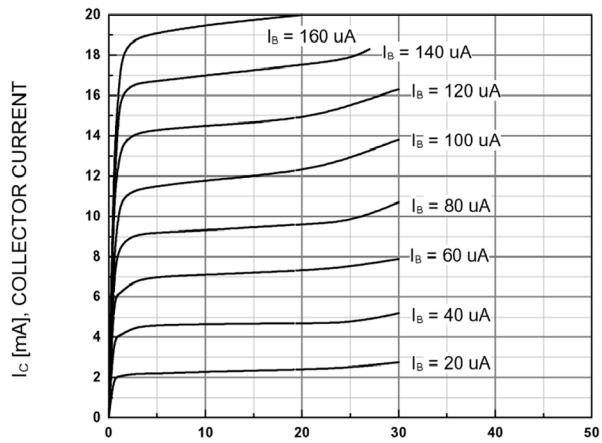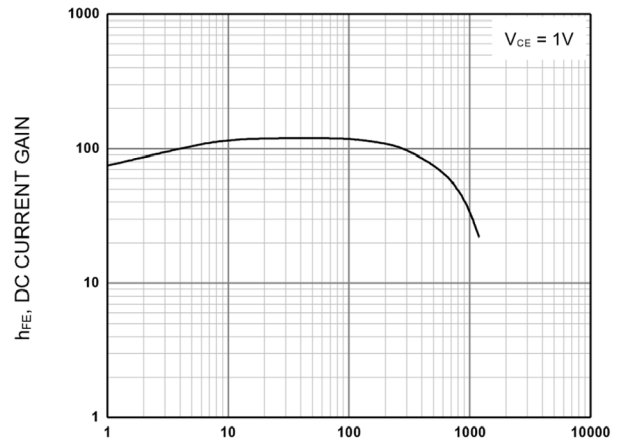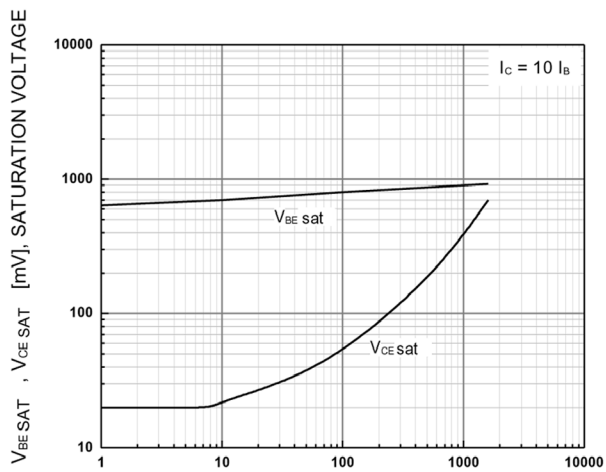
DC current Gain

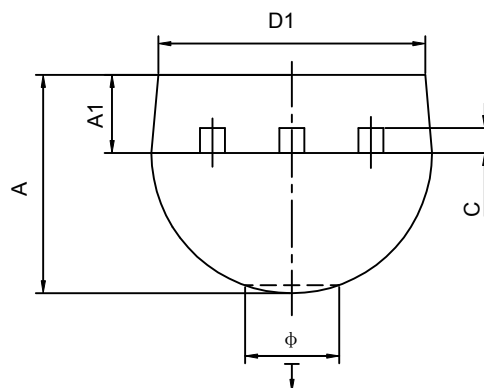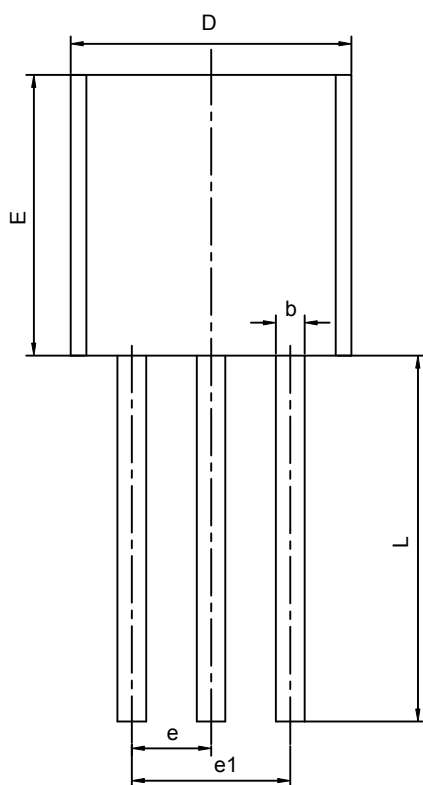**Base-Emitter Saturation Voltage**
Collector-Emitter Saturation Voltage
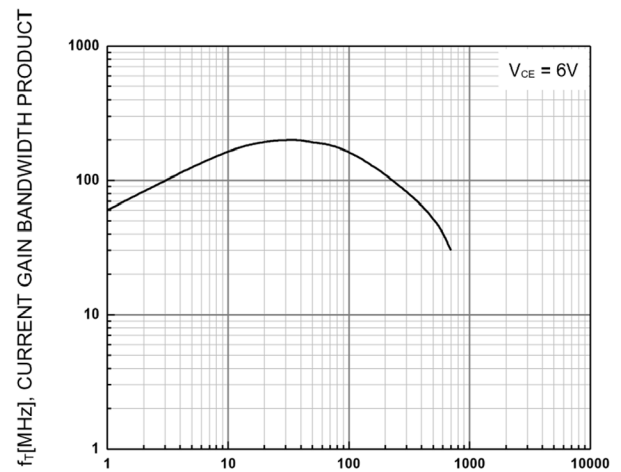
Current Gain Bandwidth Product

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	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270TYP		0.050TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Ö		1.600		0.063
⊤	0.000	0.380	0.000	0.015