WANSEMI
万代半导体

S8050

SOT23 TRANSISTOR(NPN)

SOT23/TRANS(NPN)/500mA/200-350

Rev1.2

SOT23 TRANSISTOR(NPN)

1.Features

- Complementary to S8550
- Power Dissipation of 300mW
- High Stability and High Reliability

2. Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

3.Package Marking and Ordering Information

Part no.	Marking	Package	PCS/Reel	PCS/CTN.
S8050	J3Y	SOT-23	3,000	180,000

4. Maximum Ratings & Thermal Characteristics at Ta=25℃

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	45	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter -Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55 ~ +150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$	417	℃/W

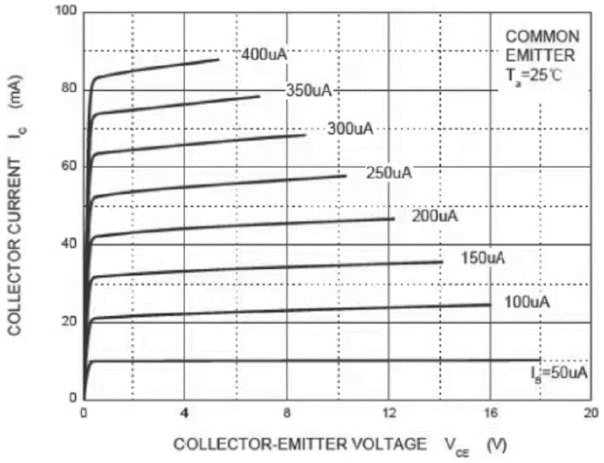
5.Electrical Characteristics at Ta=25℃

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100uA, I_E=0	45		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=2mA, I_B=0	25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100uA, I_C=0	6		V
Collector cut-off current	I_{CEO}	V_{CE}=20V, I_B=0		100	nA
Collector cut-off current	I_{CBO}	V_{CB}=40V, I_E=0		100	nA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0		100	nA
DC current gain	$h_{FE(1)}$	V_{CE}=1V, I_C=50mA	85	400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA, I_B=50mA		0.6	V
Base -emitter saturation voltage	$V_{BE(sat)}$	I_C=500mA, I_B=50mA		1.2	V
Transition frequency	f_T	V_{CE}=6V, I_C=20mA, f=30MHz	150		MHz

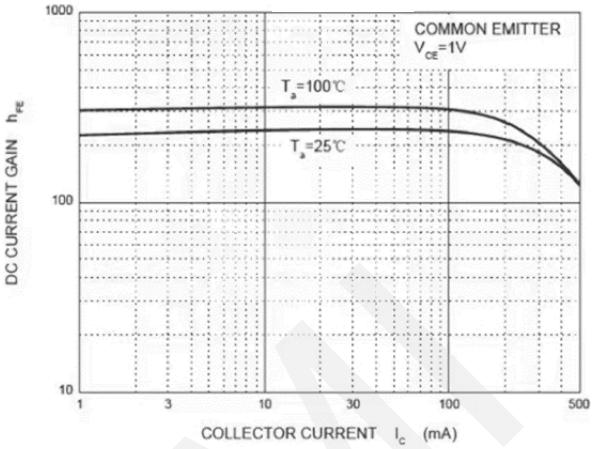
CLASSIFICATION OF $h_{FE(1)}$

RANK	L	H	J
RANGE	120-200	200-350	300-400

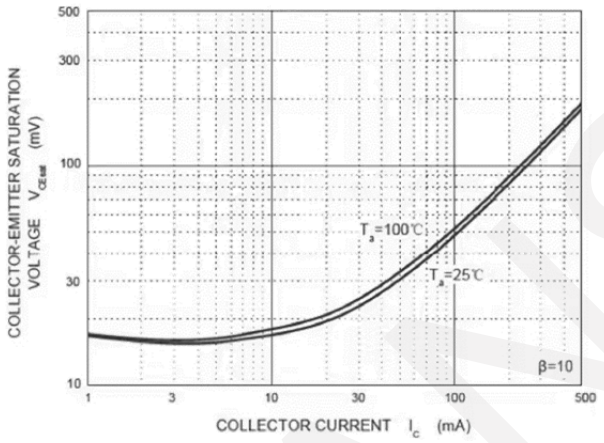
6.Typical Characteristics



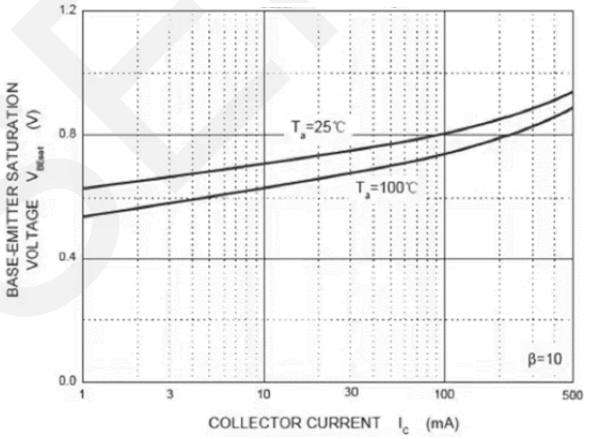
Static Characteristic



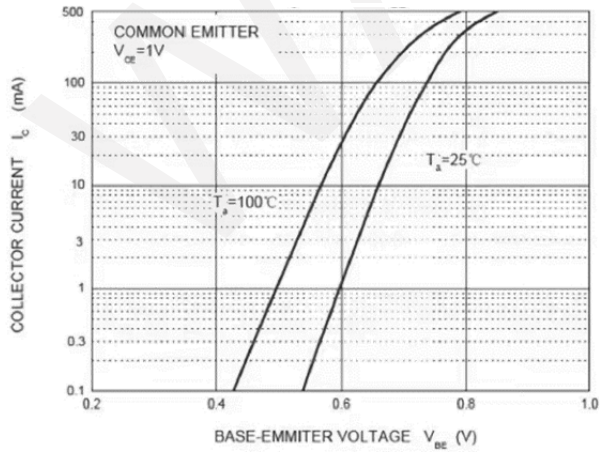
h_{FE} -- I_C



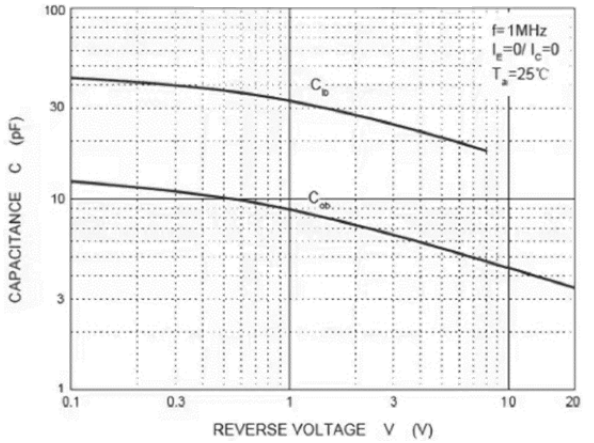
V_{CEsat} -- I_C



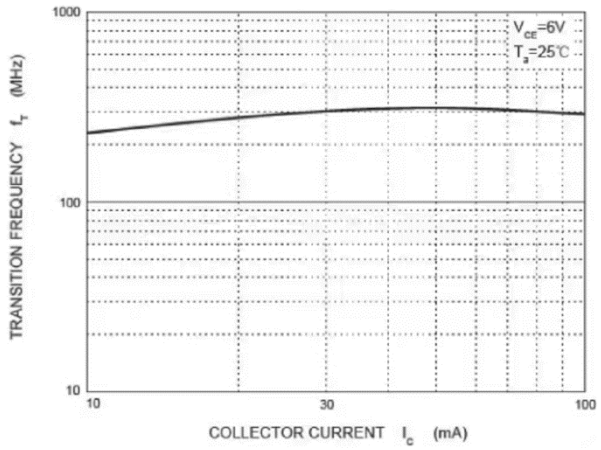
V_{EBsat} -- I_C



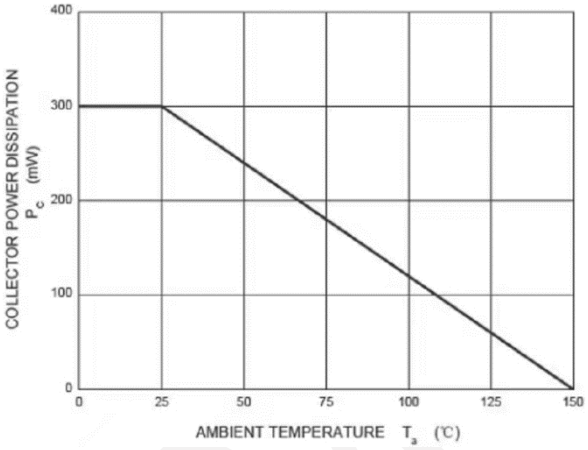
V_{BE} -- I_C



C_{ob}/C_{ib} – V_{CB}/V_{EB}

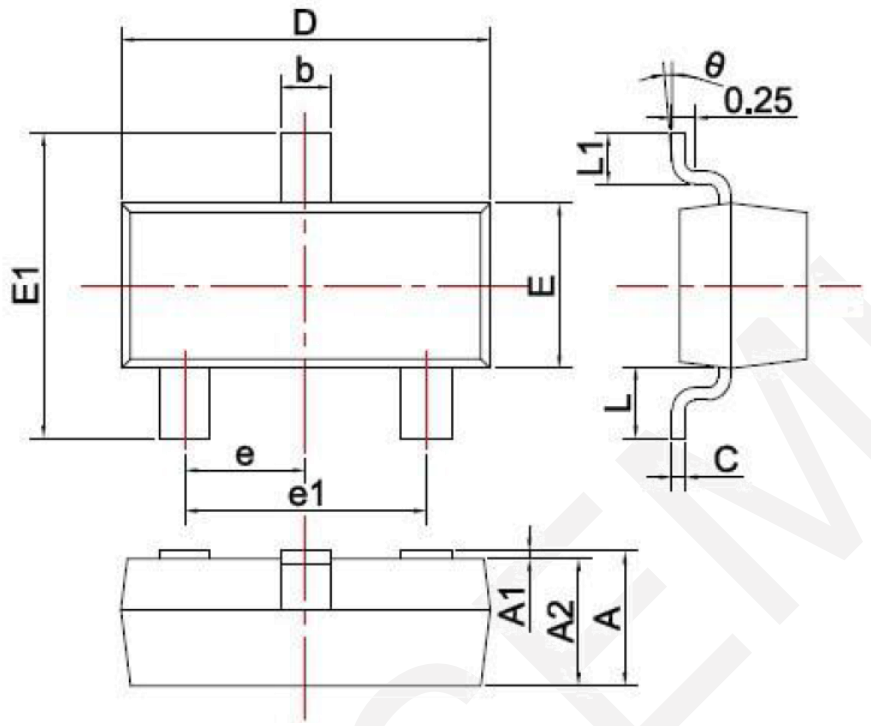


f_T -- I_C



P_C -- T_a

7.Package Dimensions



Symbol	Dimensions in Millimeters		
	MIN.	TYP.	MAX.
A	0.900		1.150
A1	0.000		0.100
A2	0.900		1.050
b	0.300		0.500
c	0.080		0.150
D	2.800		3.000
E	1.200		1.400
E1	2.250		2.550
e		0.950	
e1	1.800		2.000
L		0.550	
L1	0.300		0.500
θ	0°		8°

8. Important Notice

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