



WANSEMI
万芯半导体

S8050-M

SOT23 TRANSISTOR(NPN)

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

Rev1.2

SOT23 TRANSISTOR(NPN)

1.Features

- ◆ Complementary to S8050-M
- ◆ 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-M	J3Y.	SOT-23	3,000	180,000

4. Maximum Ratings & Thermal Characteristics at Ta=25°C

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter -Base Voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 ~ +150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	417	°C/W

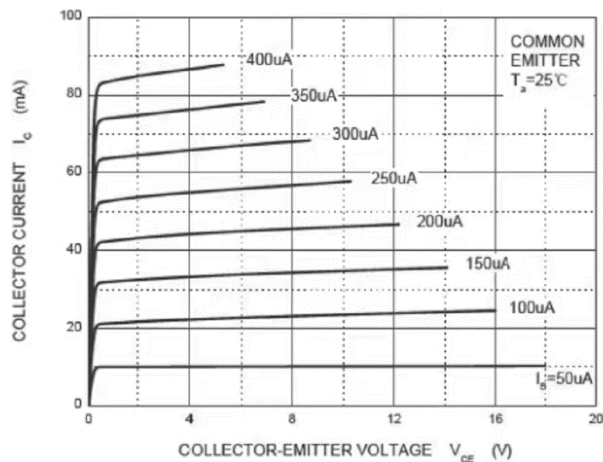
5. Electrical Characteristics at Ta=25°C

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	20		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=2mA, I_B=0$	15		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5		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	$h_{FE(1)}$	$V_{CE}=1V, I_C=50mA$	100	400	
	$h_{FE(2)}$	$V_{CE}=1V, I_C=300mA$	50		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=200mA, I_B=50mA$		0.3	V

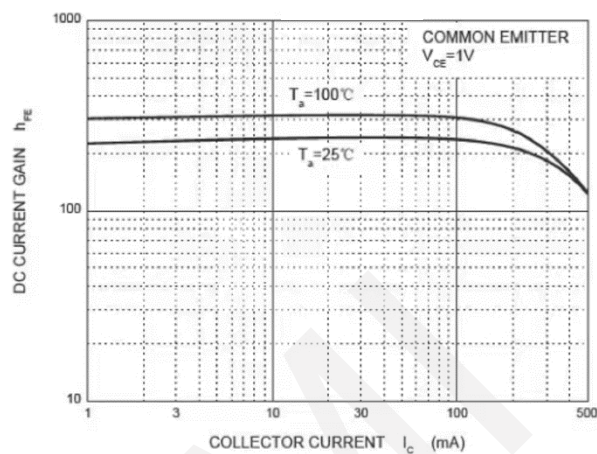
CLASSIFICATION OF $h_{FE(1)}$

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

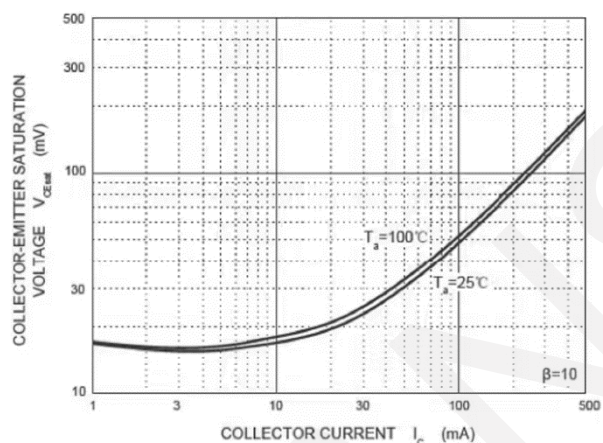
6. Typical Characteristics



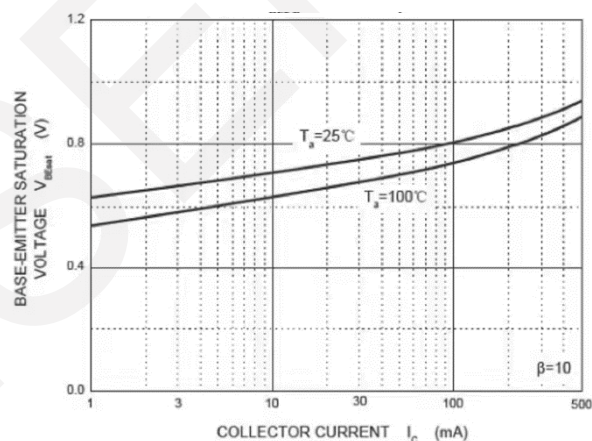
Static Characteristic



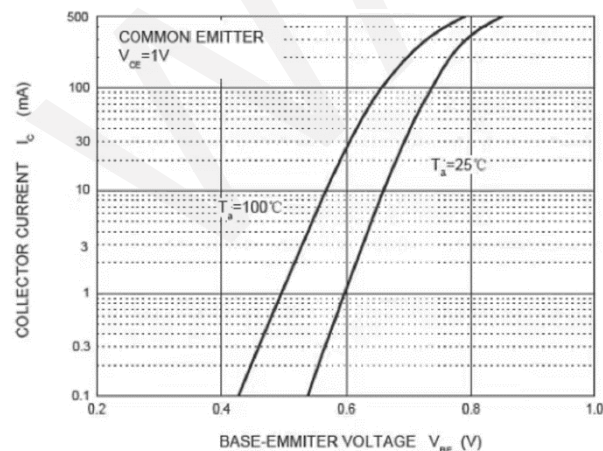
$h_{FE} \text{ -- } I_c$



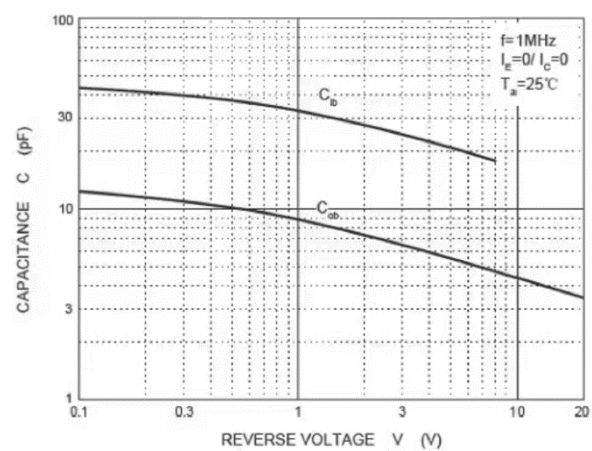
$V_{CEsat} \text{ -- } I_c$



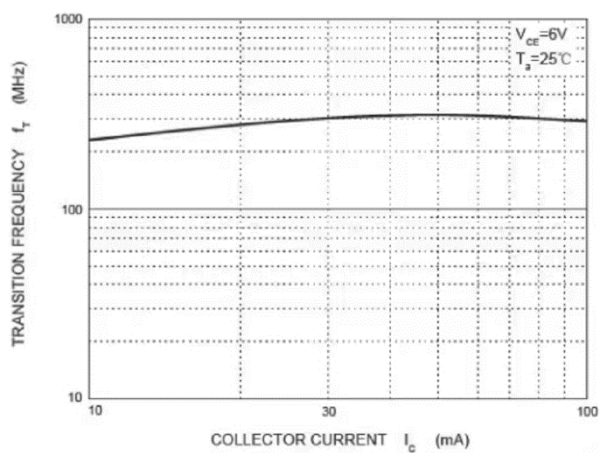
$V_{EBsat} \text{ -- } I_c$



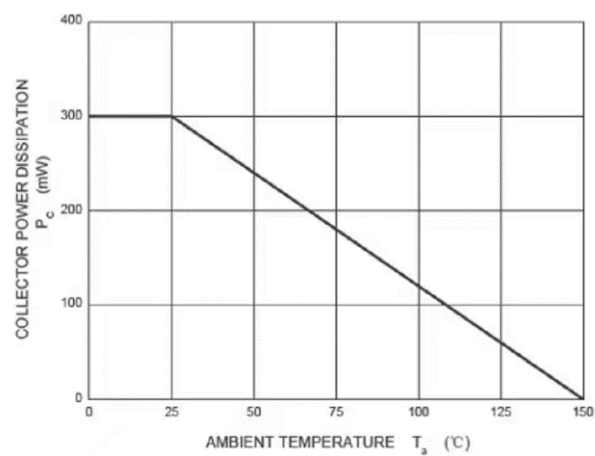
$V_{BE} \text{ -- } I_c$



$C_{ob}/C_{ib} \text{ -- } V_{CB}/V_{EB}$

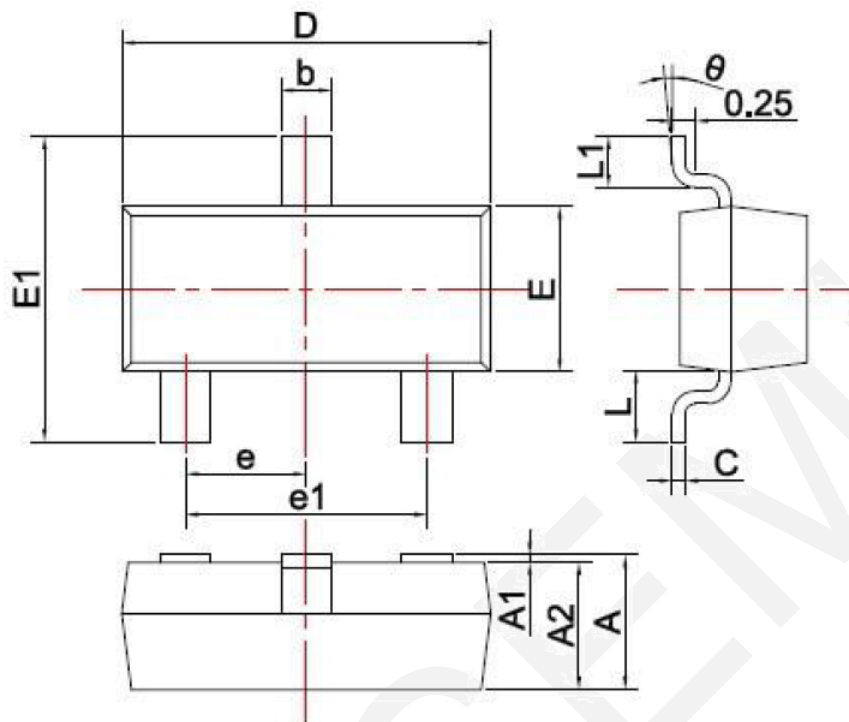


$f_T \sim I_C$



$P_C \sim T_A$

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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