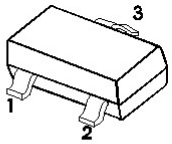
BerSs

S8050

TRANSISTOR(NPN)

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

Marking: J3Y

Features

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

Mechanical Data

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

(TA = 25℃)

Maximum Ratings & Thermal Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified.)

Parameters	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	℃
Storage Temperature	Tstg	-55-+150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$	417	℃/W

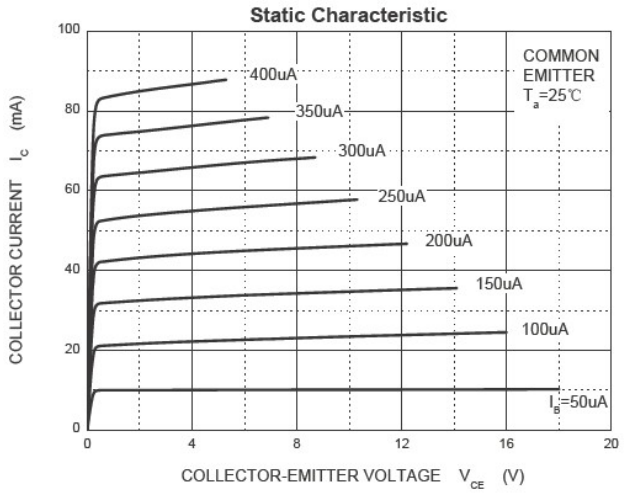
(TA = 25℃)

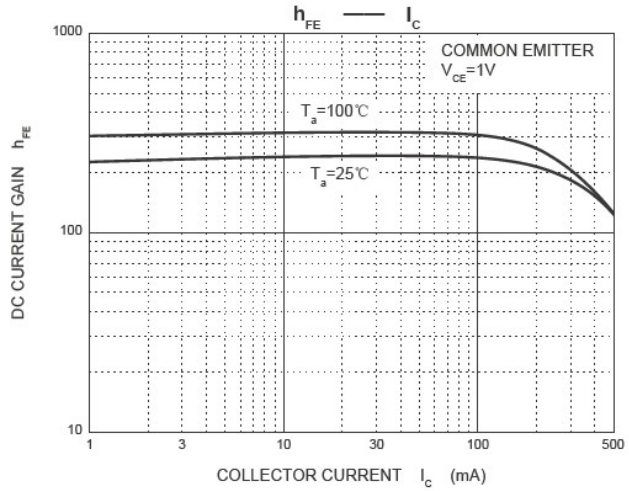
Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

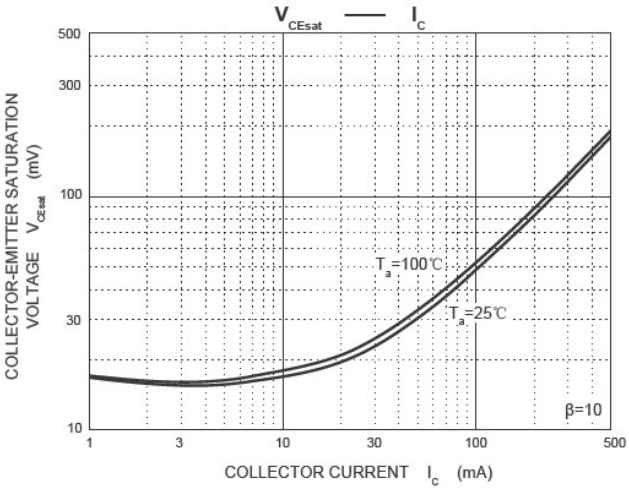
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100uA, I_E=0	40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100uA, I_C=0	5		V
Collector cut-off current	I_{CEO}	V_{CE}=20V, 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	120	400	
	$h_{FE(2)}$	V_{CE}=1V, I_C=500mA	50		
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA, I_B=50mA		0.60	V
Base -emitter saturation voltage	$V_{BE(sat)}$	I_C=500mA, I_B=50mA		1.20	V
Transition frequency	f_T	V_{CE}=6V, I_C=20mA,f=30MHz	150		MHz

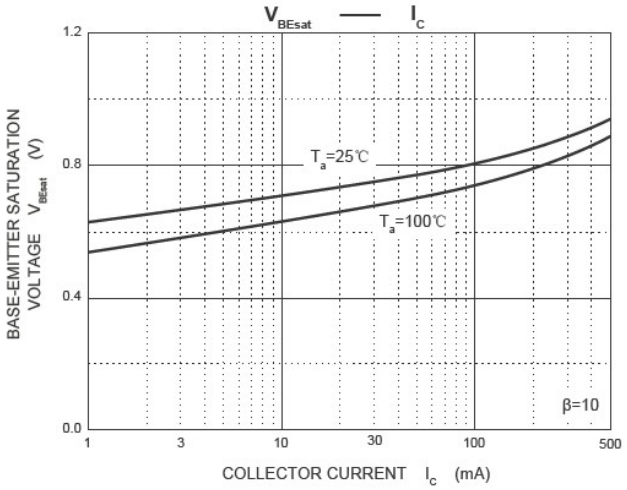
CLASSIFICATION OF $h_{FE(1)}$

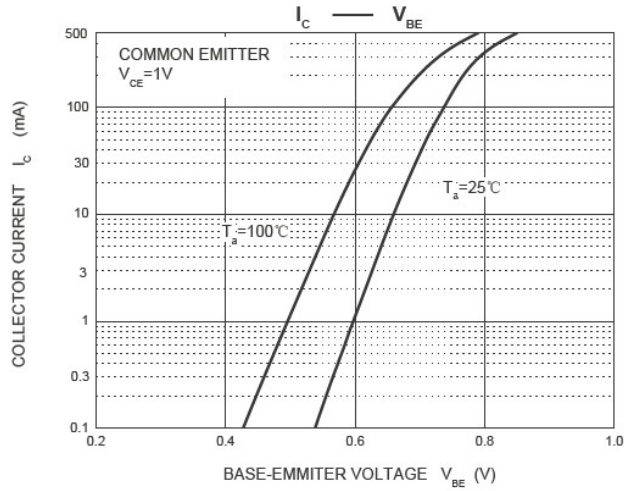
RANK	L	H	J
RANGE	120-200	200-350	300-400

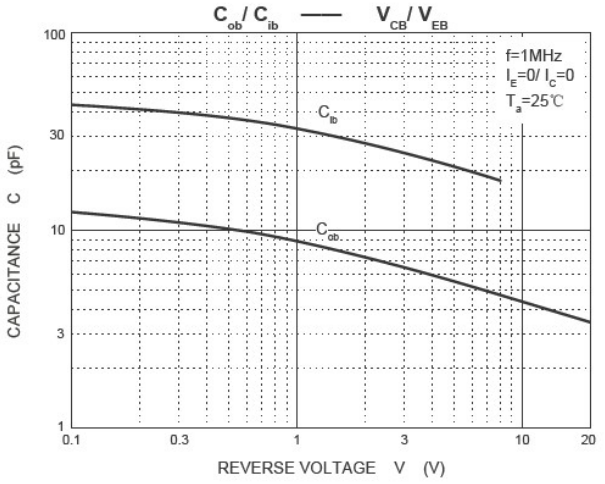

Static Characteristic
COMMON EMITTER
T_a=25℃
400uA
350uA
300uA
250uA
200uA
150uA
100uA
I_B=50uA
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

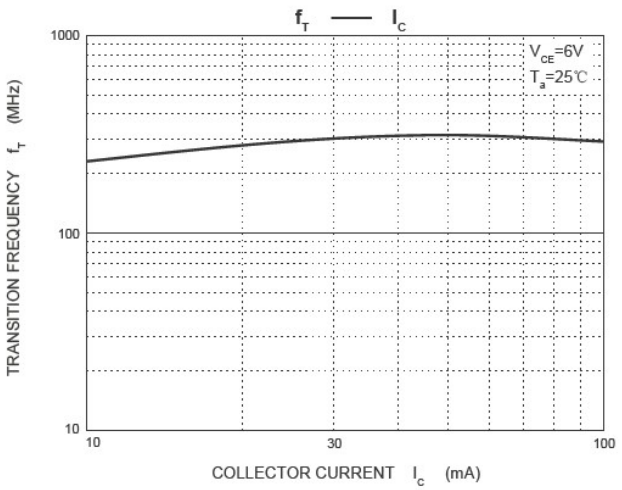

h_{FE} —— I_C
COMMON EMITTER
V_{CE}=1V
T_a=100℃
T_a=25℃
DC CURRENT GAIN h_{FE}
COLLECTOR CURRENT I_C (mA)

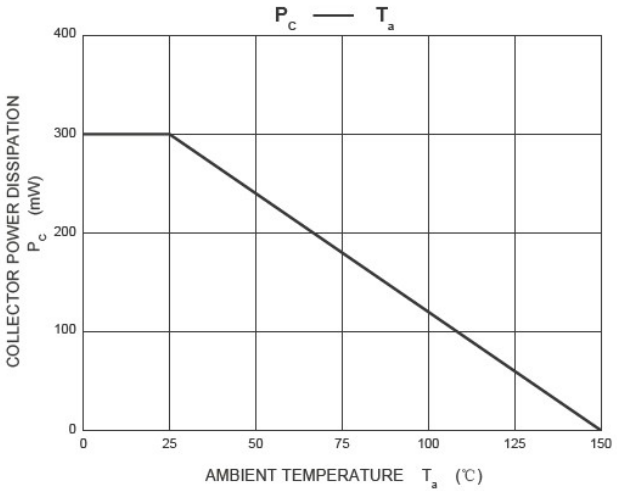

V_{CEsat} —— I_C
T_a=100℃
T_a=25℃
β=10
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (mV)
COLLECTOR CURRENT I_C (mA)


V_{BEsat} —— I_C
T_a=25℃
T_a=100℃
β=10
BASE-EMITTER SATURATION VOLTAGE V_{BEsat} (V)
COLLECTOR CURRENT I_C (mA)

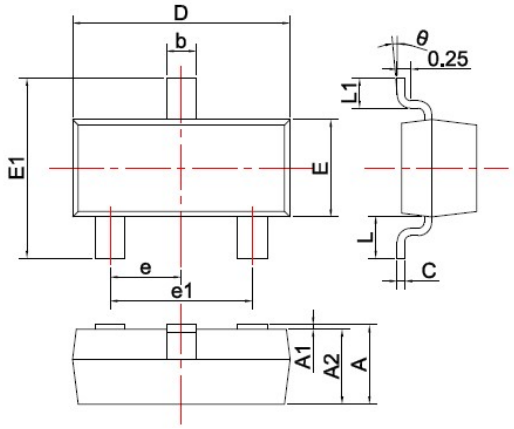

I_C —— V_{BE}
COMMON EMITTER
V_{CE}=1V
T_a=25℃
T_a=100℃
COLLECTOR CURRENT I_C (mA)
BASE-EMMITER VOLTAGE V_{BE} (V)


C_{ob} / C_{ib} —— V_{CB} / V_{EB}
f=1MHz
I_E=0/ I_C=0
T_a=25℃
C_{ib}
C_{ob}
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)





SOT-23 PACKAGE OUTLINE Plastic surface mounted package

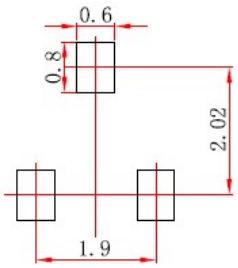


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

Precautions: PCB Design

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



Note:
1.Controlling dimension:In millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.