



浩畅半导体
www.szhaochang.cn

2SA812 TRANSISTOR (PNP)

SOT-23 Plastic-Encapsulate Transistors

产
品
规
格
书

承
认
书

客户确认：

公司签章：

部门

工程部

品保部

采购部

签名

日期



SOT-23 Plastic-Encapsulate Transistors

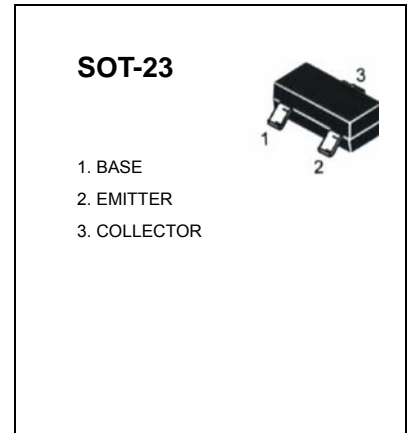
2SA812 TRANSISTOR (PNP)

FEATURES

- Complementary to 2SC1623
- High DC Current Gain: $h_{FE}=200$ TYP. ($V_{CE}=-6V, I_C=-1mA$)
- High Voltage: $V_{ce0}=-50V$

MAXIMUM RATINGS ($T_A=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector- Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-100	mA
P_C	Collector Power Dissipation	200	mW
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature	-55-150	$^{\circ}C$



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ unless otherwise specified)

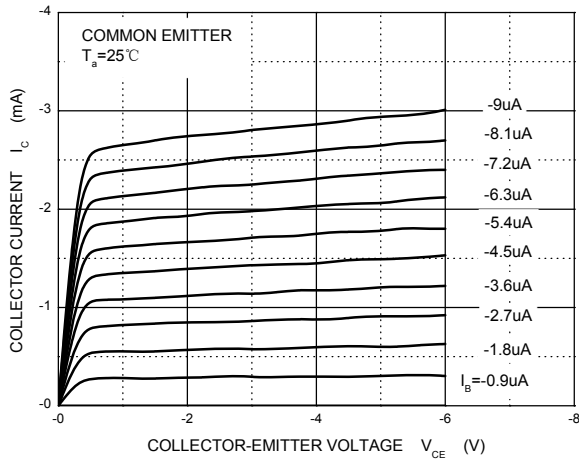
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-60V, I_E=0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5V, I_C=0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE}=-6V, I_C=-1mA$	90		600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-100mA, I_B=-10mA$			-0.3	V
Base-emitter voltage	V_{BE}	$I_C=-1mA, V_{CE}=-6V$	-0.58		-0.68	V
Transition frequency	f_T	$V_{CE}=-6V, I_C=-10mA$		180		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10V, I_E=0, f=1MHz$		4.5		pF

CLASSIFICATION OF h_{FE}

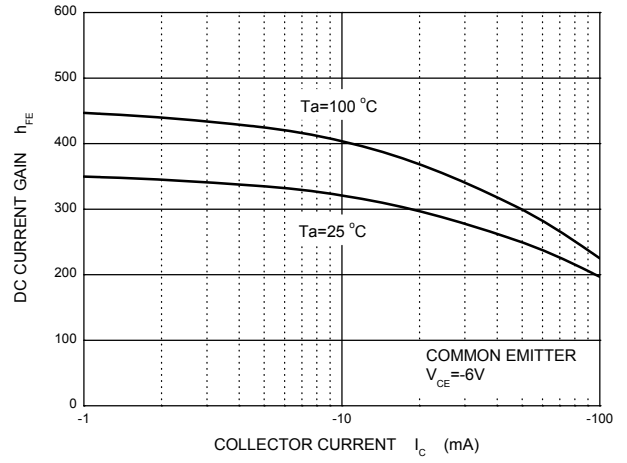
Rank	M4	M5	M6	M7
Range	90-180	135-270	200-400	300-600
Marking	M4	M5	M6	M7

Typical Characteristics

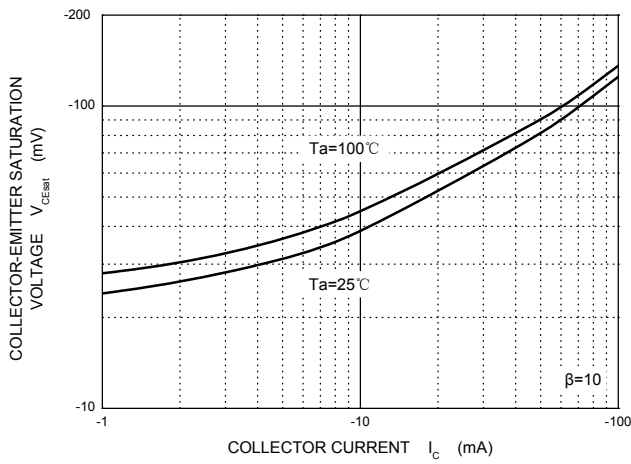
Static Characteristic



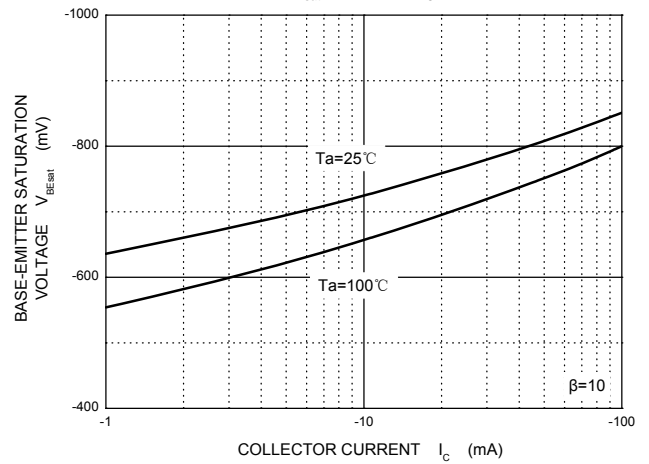
h_{FE} — I_c



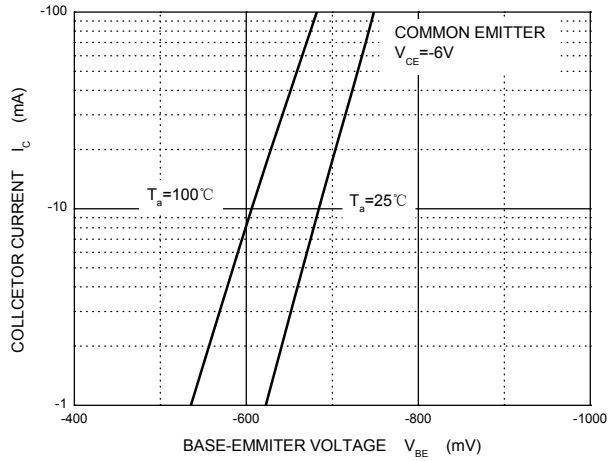
V_{CEsat} — I_c



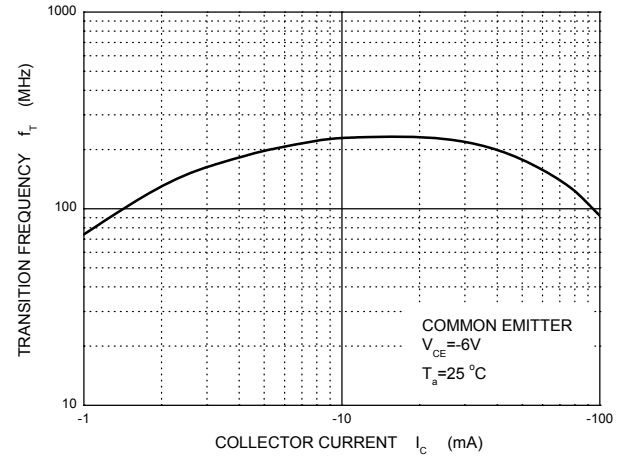
V_{BEsat} — I_c



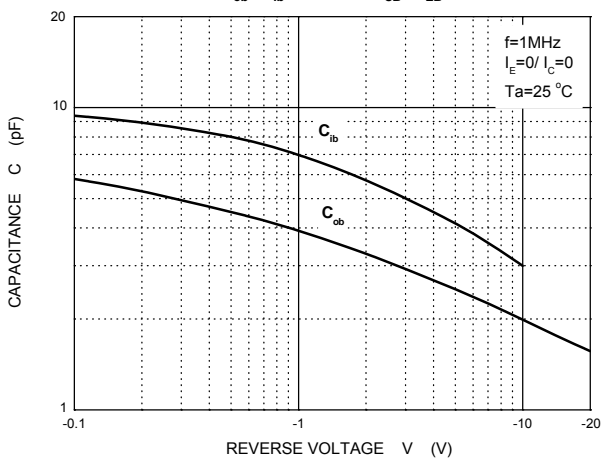
I_c — V_{BE}



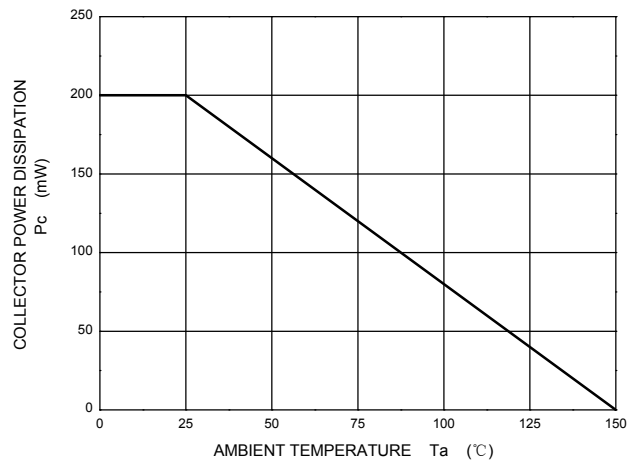
f_T — I_c



C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_c — T_a



SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.