



SOT-23 Plastic-Encapsulate Transistors

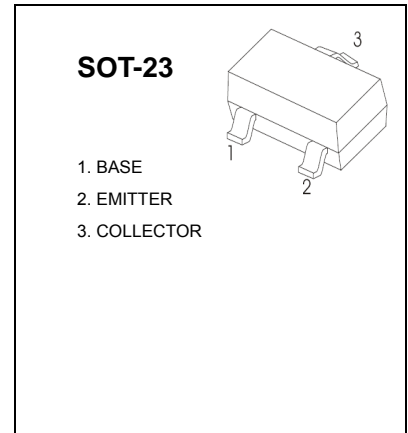
2SA812 TRANSISTOR (PNP)

FEATURES

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

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

Symbol	Parameter	Value	Unit
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	$^{\circ}C$



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ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$ 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

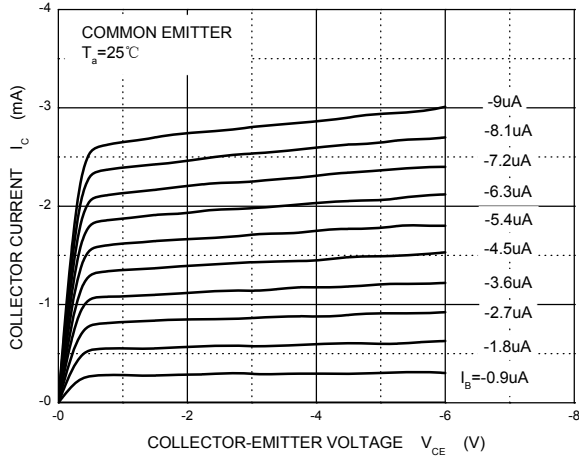
CLASSIFICATION OF h_{FE}

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

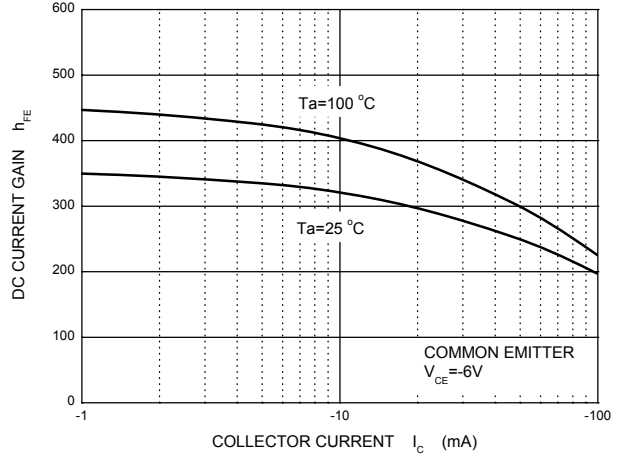
Typical Characteristics

2SA812

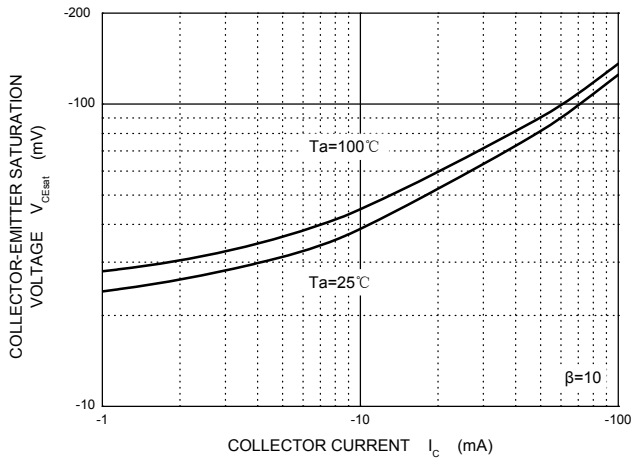
Static Characteristic



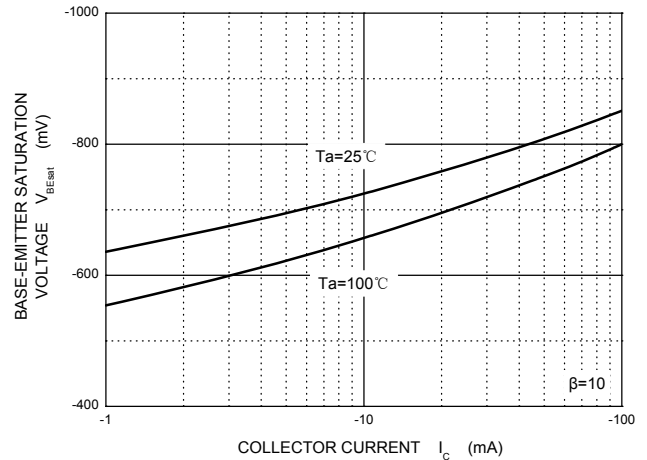
h_{FE} — I_C



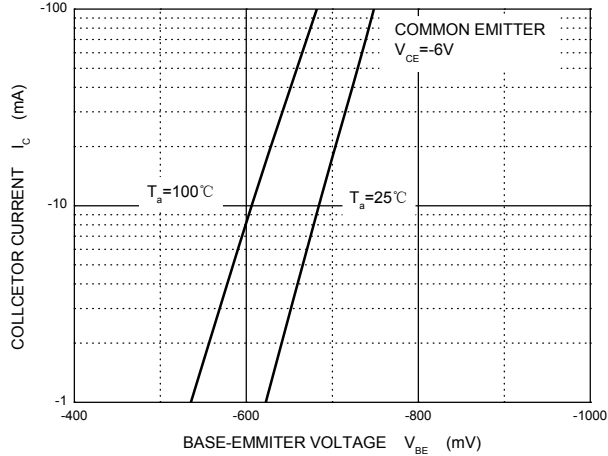
V_{CEsat} — I_C



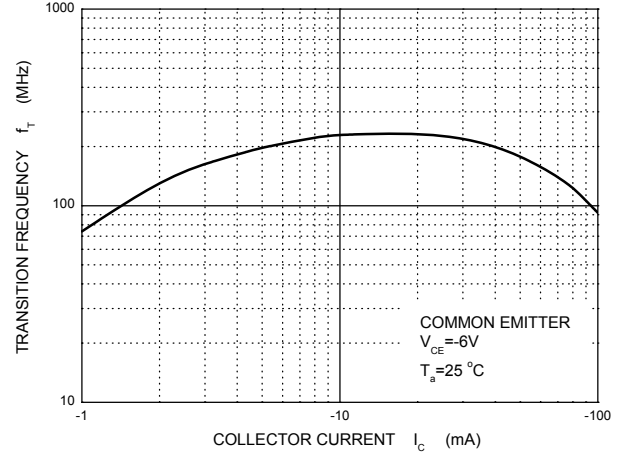
V_{BEsat} — I_C



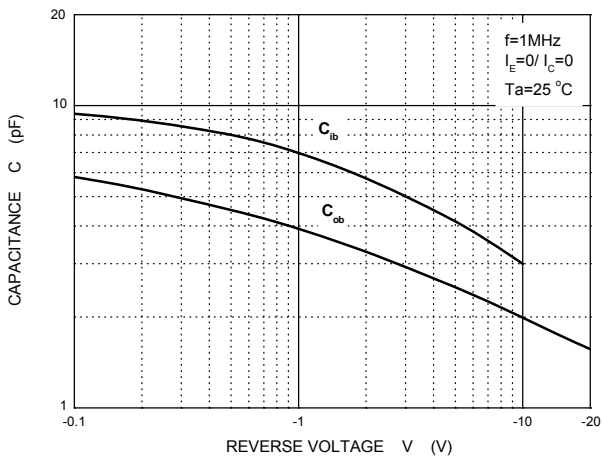
I_C — V_{BE}



f_T — I_C



C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_c — T_a

