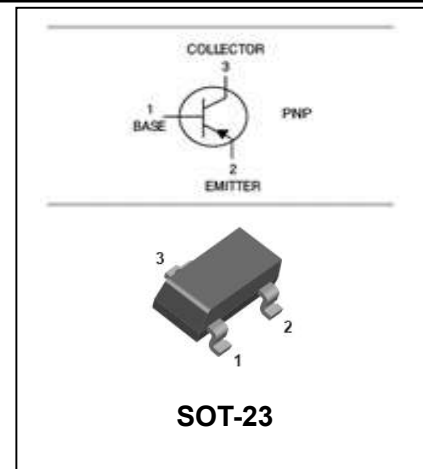


Silicon Epitaxial Planar Transistor

2SA812

FEATURES

- Complementary to 2SC1623.
- High DC current gain: $h_{FE}=200$ typ.
($V_{CE}=-6.0V, I_C=-1.0mA$)
- High Voltage: $V_{CEO}=-50V$.



APPLICATIONS

- Audio frequency, general purpose amplifier.

ORDERING INFORMATION

Type No.	Marking	Package Code
2SA812□	M4/M5/M6/M7	SOT-23

□: none is for Lead Free package;

“G” is for Halogen Free package

MAXIMUM RATING @ $T_a=25^{\circ}C$ unless otherwise specified

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 Dissipation	200	mW
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	$^{\circ}C$

Silicon Epitaxial Planar Transistor

2SA812

ELECTRICAL CHARACTERISTICS @ Ta=25°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	200	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-100mA, I_B=-10mA$		-0.18	-0.3	V
Base-emitter voltage	V_{BE}	$I_C=-1mA, V_{CE}=-6V$	-0.58	-0.62	-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

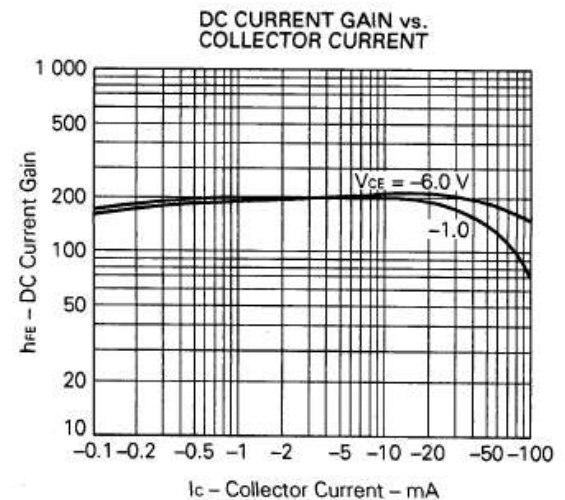
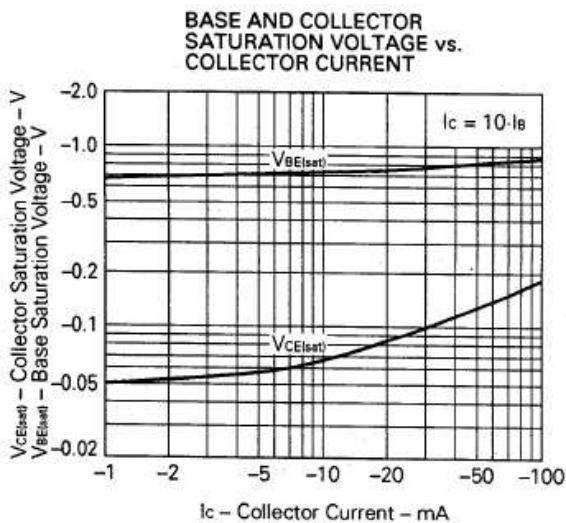
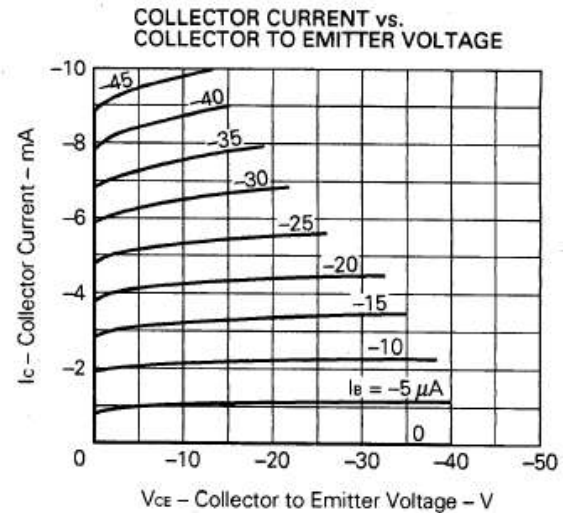
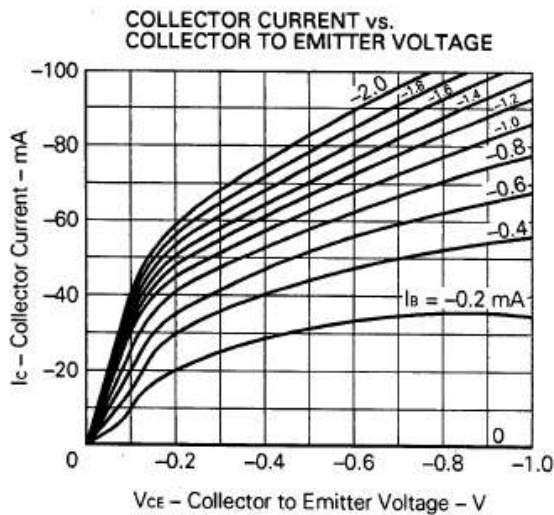
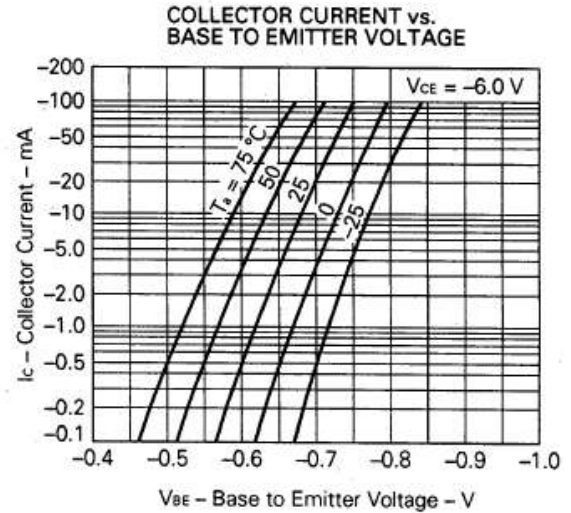
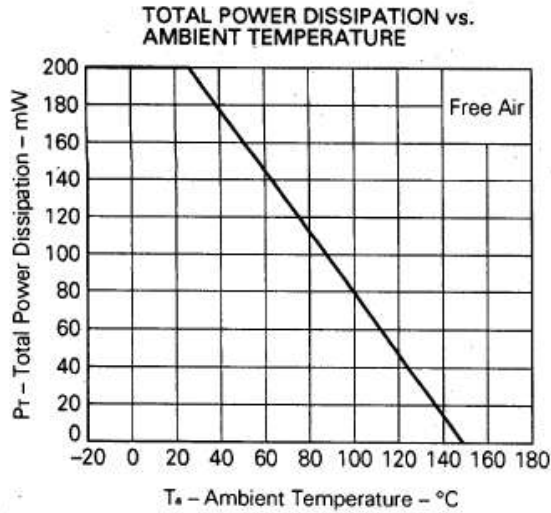
CLASSIFICATION OF $h_{FE(1)}$

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

Silicon Epitaxial Planar Transistor

2SA812

TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



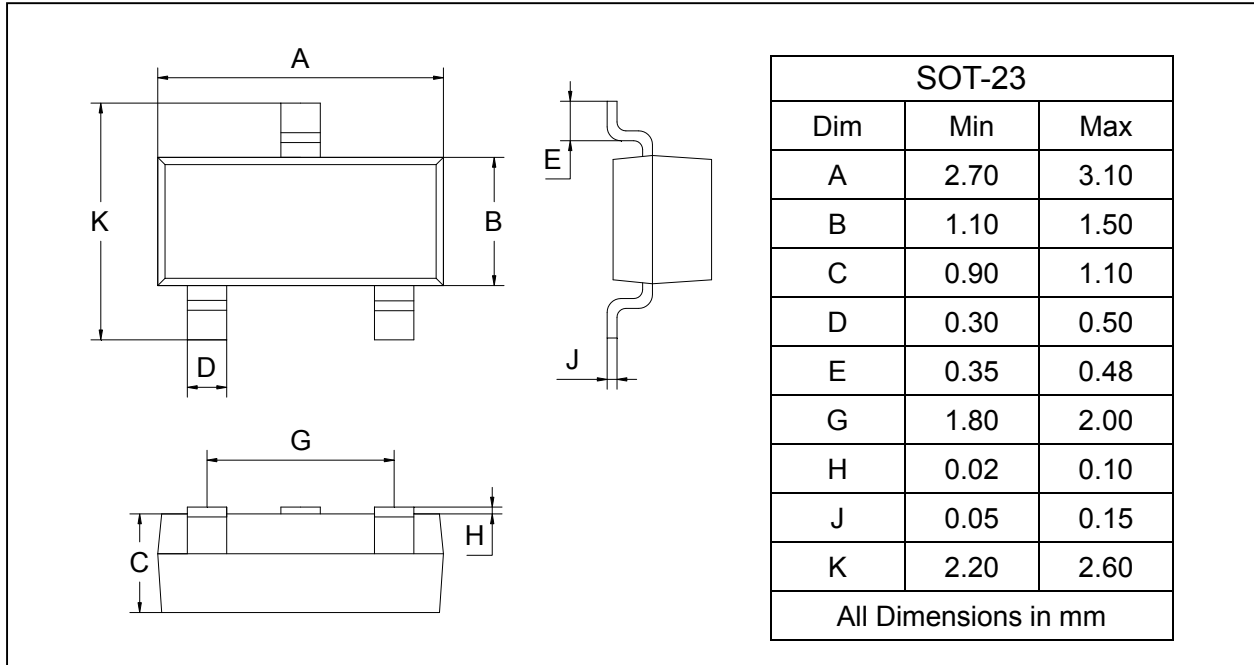
Silicon Epitaxial Planar Transistor

2SA812

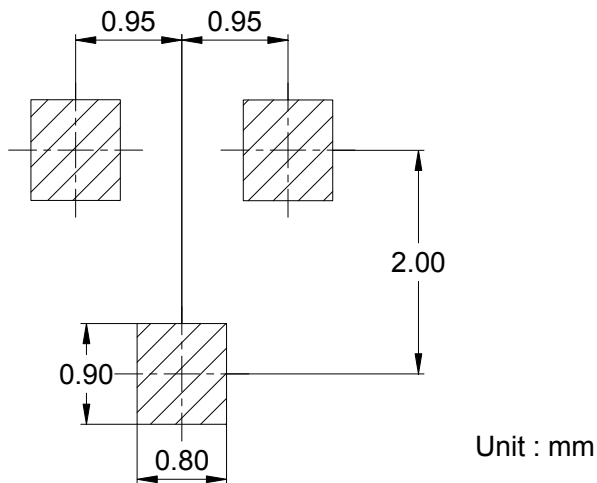
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SA812	SOT-23	3000/Tape&Reel

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