

## Silicon Epitaxial Planar Transistor

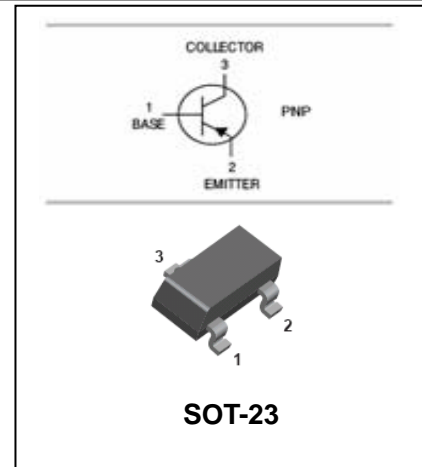
## 2SA812

### FEATURES

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



Lead-free



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### APPLICATIONS

- Audio frequency, general purpose amplifier

### ORDERING INFORMATION

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

### 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	-55~150	$^{\circ}C$

**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	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5V, I_C=0$			-0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=-6V, I_C=-1mA$	90	200	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-100mA, I_B=-10mA$			-0.3	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

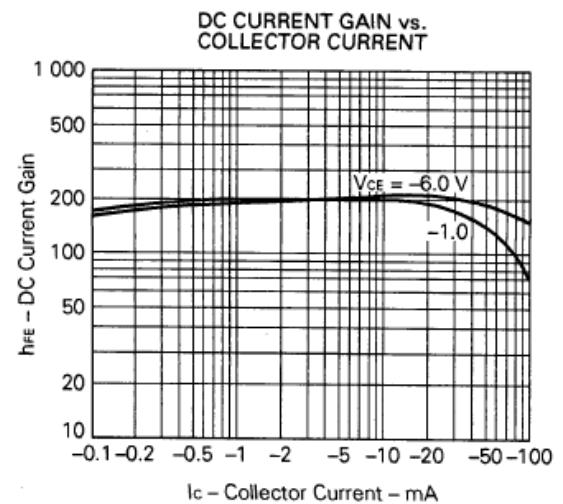
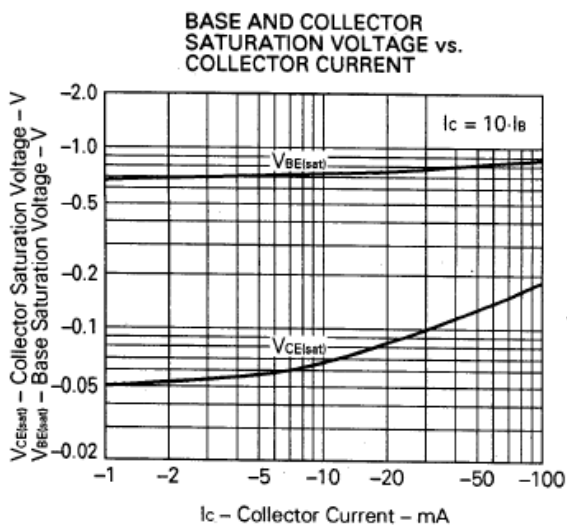
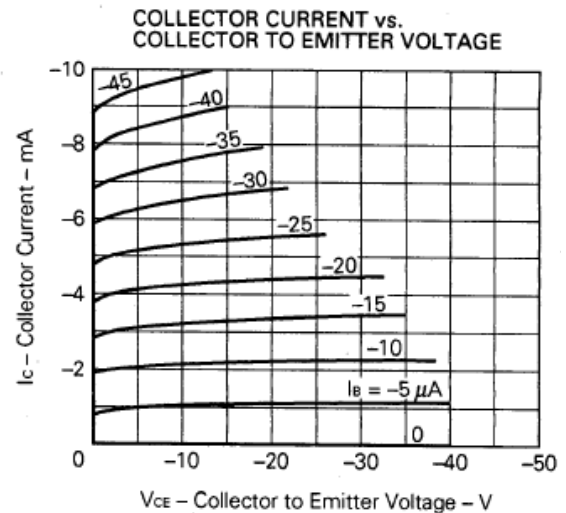
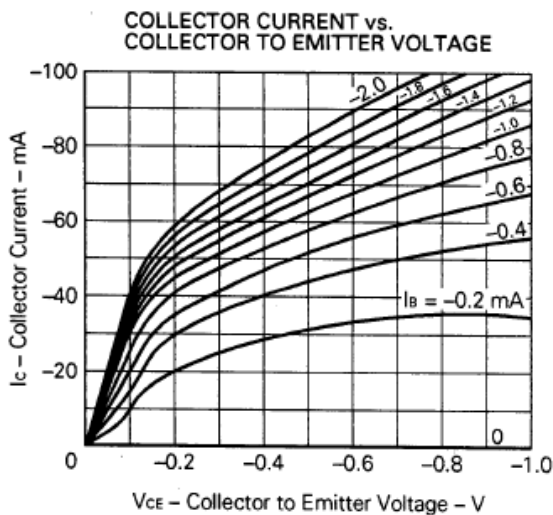
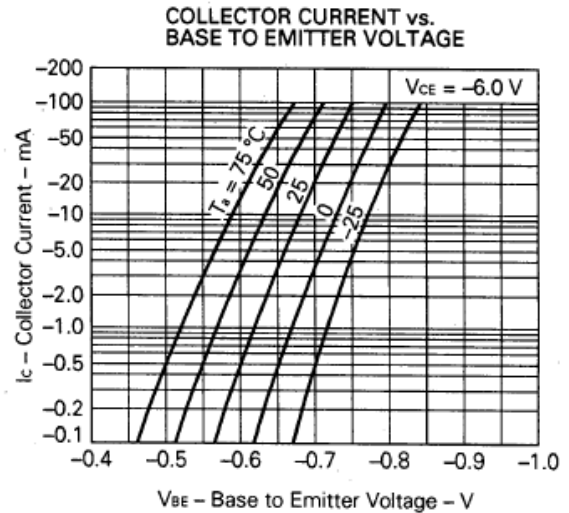
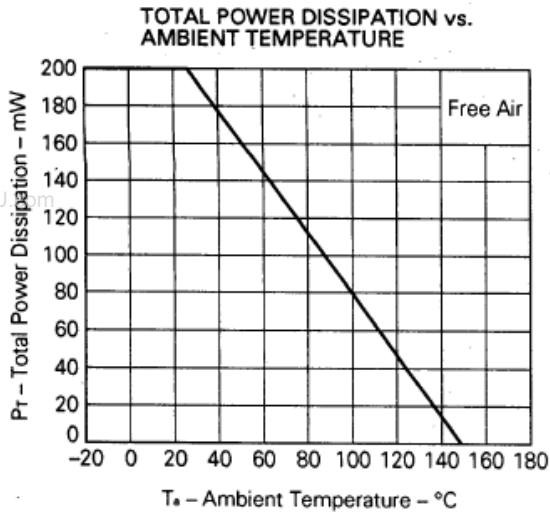
**CLASSIFICATION OF  $h_{FE(1)}$** 

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

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



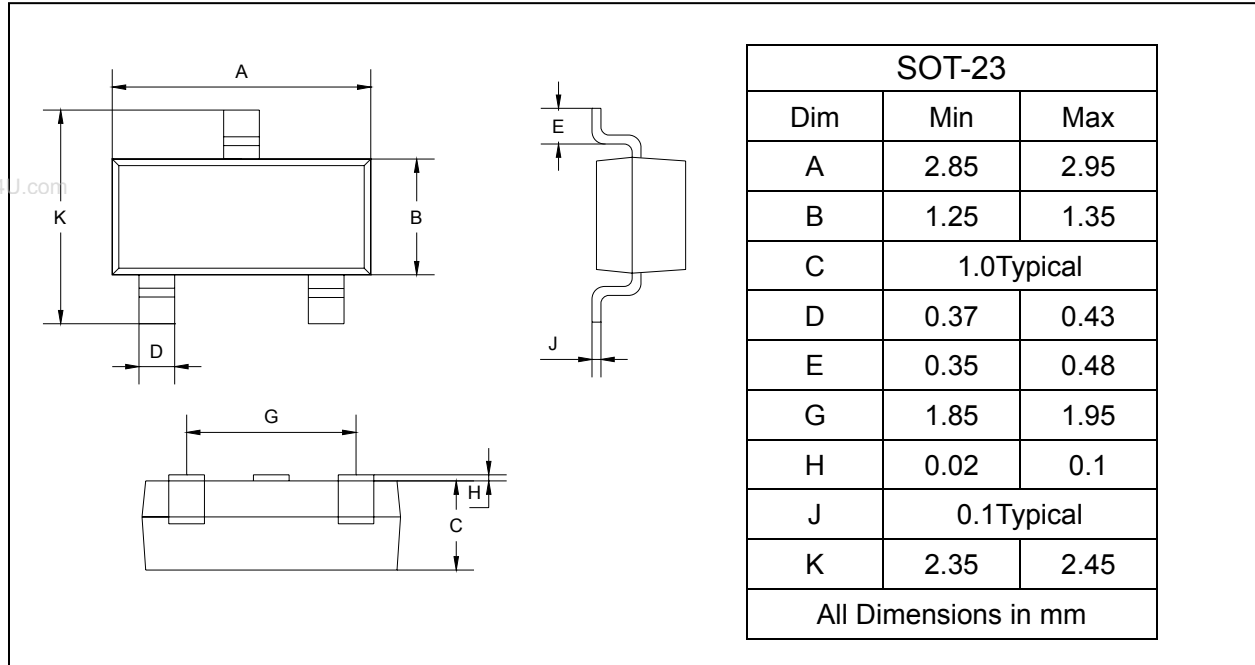
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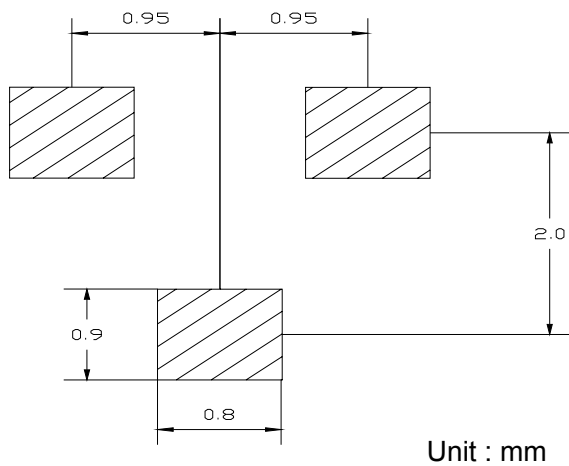
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

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