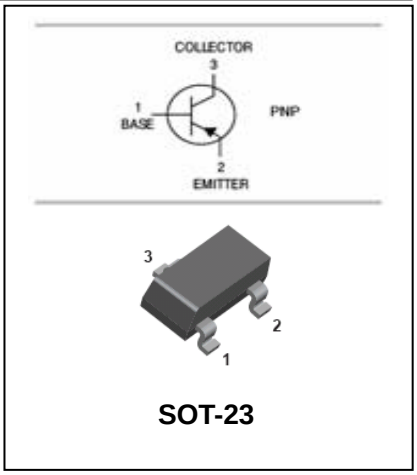
Silicon Epitaxial Planar Transistor **2SA812**

FEATURES

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

Lead-free



SOT-23

APPLICATIONS

- Audio frequency, general purpose amplifier

ORDERING INFORMATION

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

MAXIMUM RATING @ Ta=25℃ 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	℃

Silicon Epitaxial Planar Transistor **2SA812**

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	**Symbol**	**Test conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA,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=-100μA,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			-0.3	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

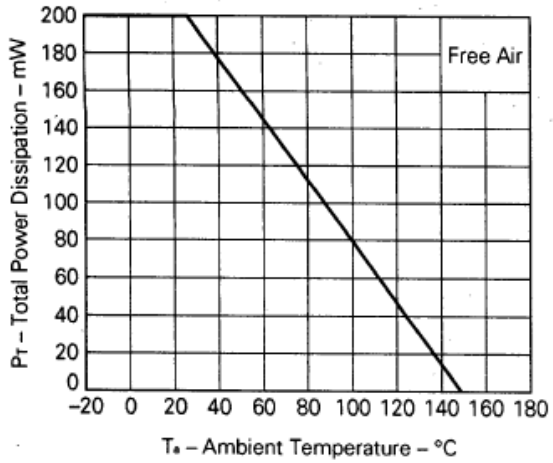
CLASSIFICATION OF $h_{FE(1)}$

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

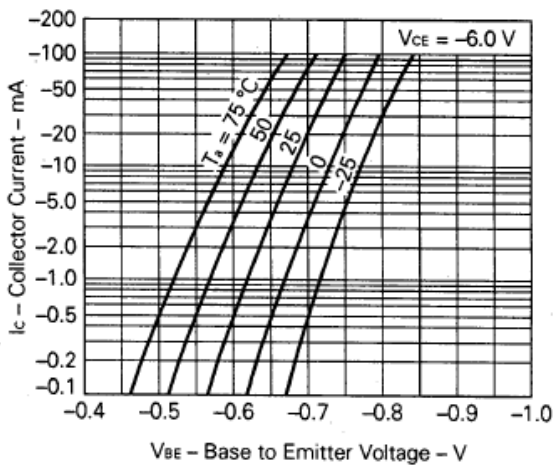
Silicon Epitaxial Planar Transistor **2SA812**

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

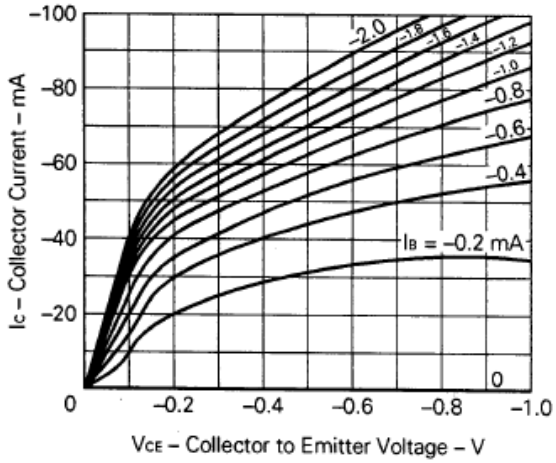
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



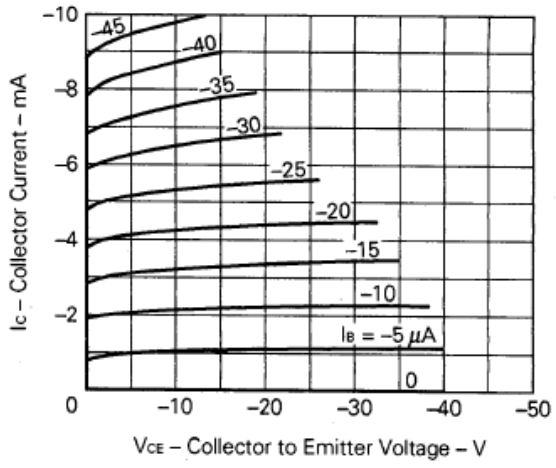
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



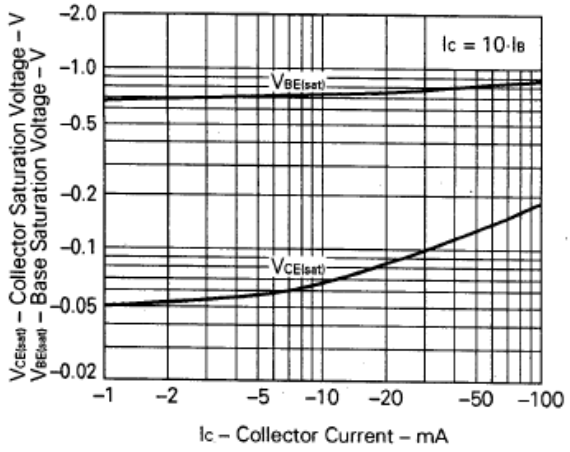
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



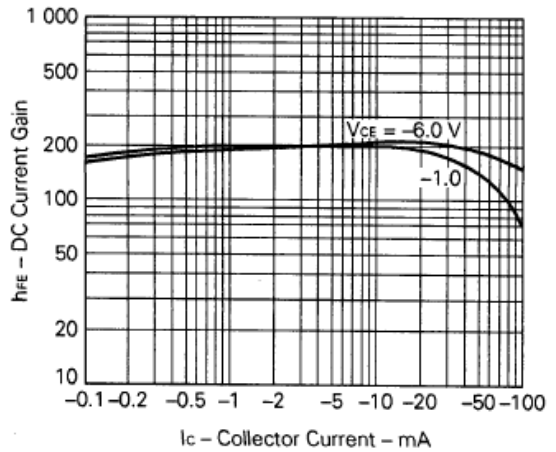
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



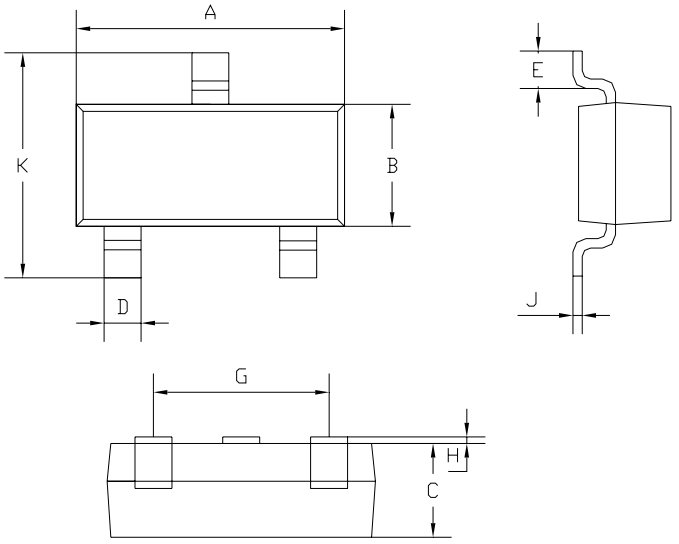
DC CURRENT GAIN vs. COLLECTOR CURRENT



Silicon Epitaxial Planar Transistor **2SA812**

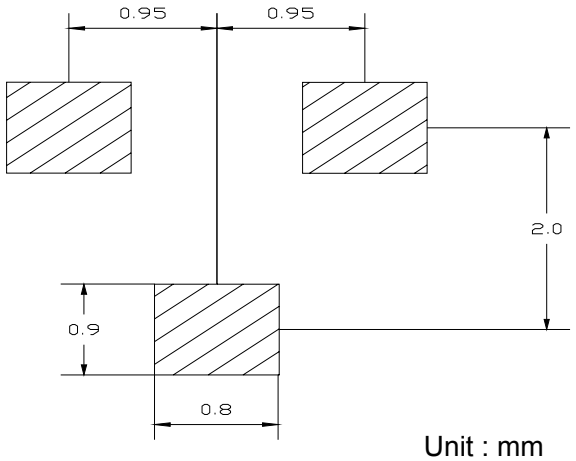
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.85	2.95
B	1.25	1.35
C	1.0Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1Typical	
K	2.35	2.45
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

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