

PNP Silicon Epitaxial Planar Transistor

S9012

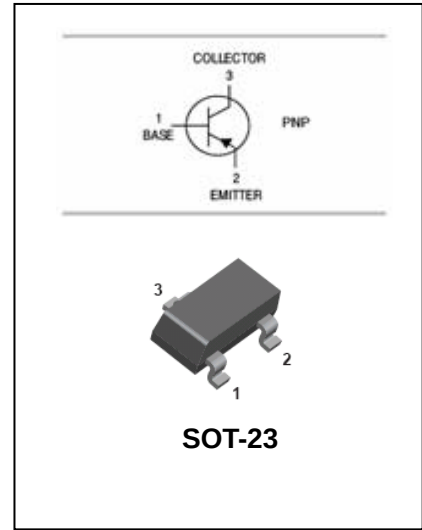
FEATURES

- High Collector Current.($I_C = -500\text{mA}$)
- Complementary To S9013.
- Excellent H_{FE} Linearity.



APPLICATIONS

- High Collector Current.



ORDERING INFORMATION

Type No.	Marking	Package Code
S9012	2T1	SOT-23

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-25	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-500	mA
P_C	Collector Dissipation	300	mW
T_j, T_{stg}	Junction and Storage Temperature	-55~150	$^\circ\text{C}$

PNP Silicon Epitaxial Planar Transistor**S9012****ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-40V, I_E=0$			-0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=-20V, I_B=0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5V, I_C=0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE}=-1V, I_C=-50mA$	120		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500mA, I_B=-50mA$			-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-500mA, I_B=-50mA$			-1.2	V
Transition frequency	f_T	$V_{CE}=-6V, I_C=-20mA$ $f=30MHz$	150			MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10V, I_E=0, f=1MHz$			5	pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	L	H	J
Range	120-200	200-350	300-400
MARKING	2T1		

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

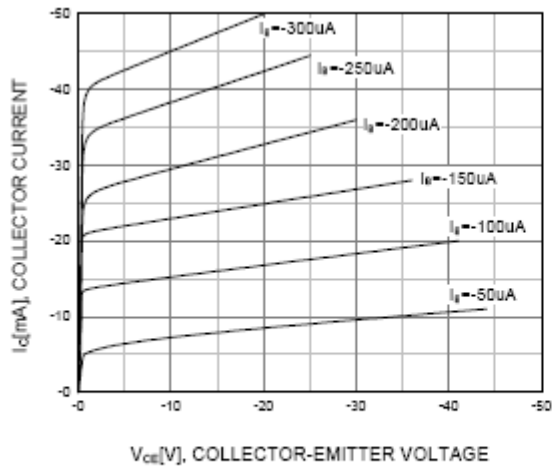


Figure 1. Static Characteristic

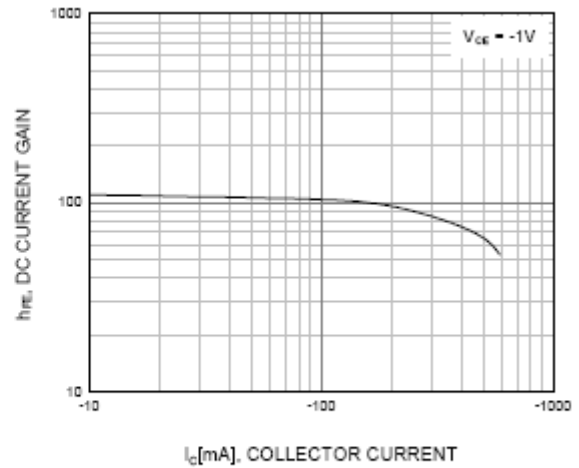
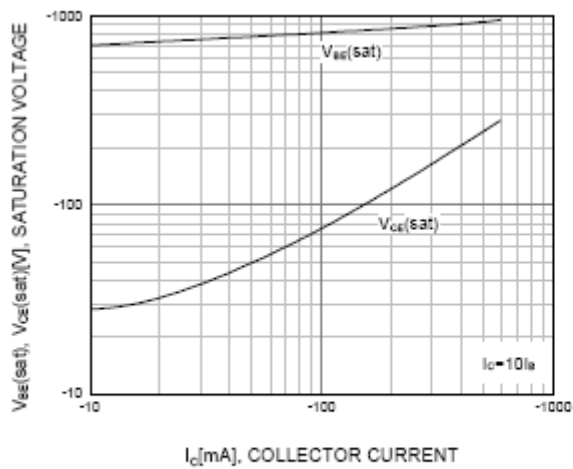


Figure 2. DC current Gain



**Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**

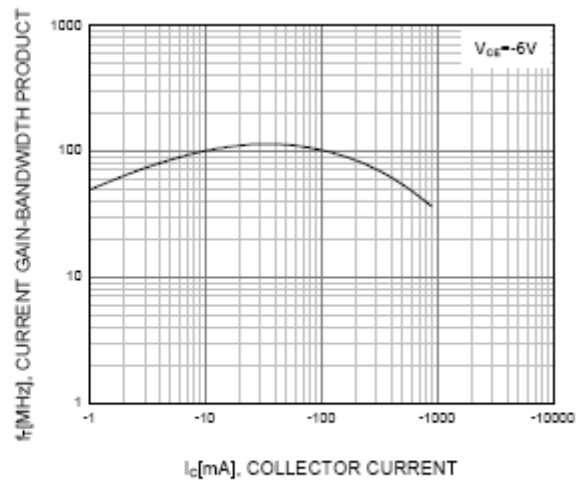


Figure 4. Current Gain Bandwidth Product

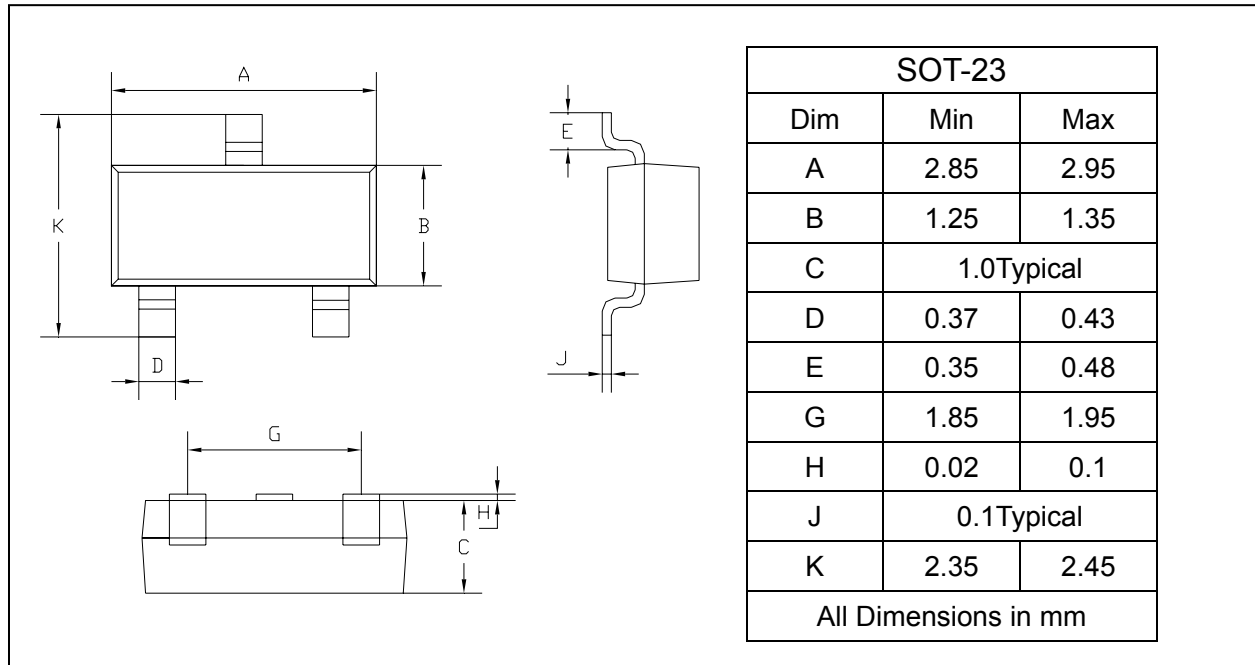
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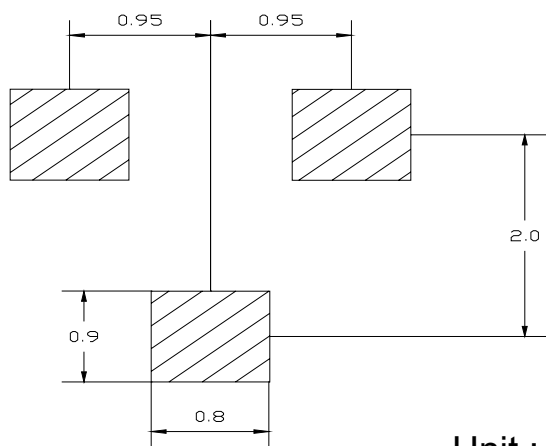
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
S9012	SOT-23	3000/Tape&Reel