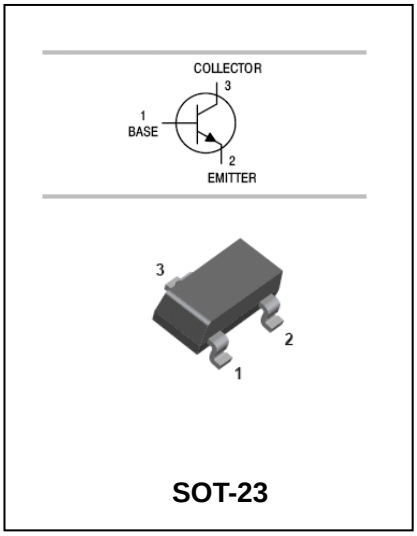
NPN Silicon Epitaxial Planar Transistor **S9013**

FEATURES

- High Collector Current.(I_C= 500mA)
- Complementary To S9012.
- Excellent H_{FE} Linearity.
- Power dissipation.(P_C=300mW)

Lead-free



SOT-23

APPLICATIONS

- High Collector Current.

ORDERING INFORMATION

Type No.	Marking	Package Code
S9013	J3	SOT-23

MAXIMUM RATING @ Ta=25℃ 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	℃

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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	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=0.1mA,I_B=0	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,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	
		V_{CE}=1V,I_C=500mA	40			
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

CLASSIFICATION OF $h_{FE(1)}$

Rank	L	H	J
Range	120-200	200-350	300-400

NPN Silicon Epitaxial Planar Transistor **S9013**

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

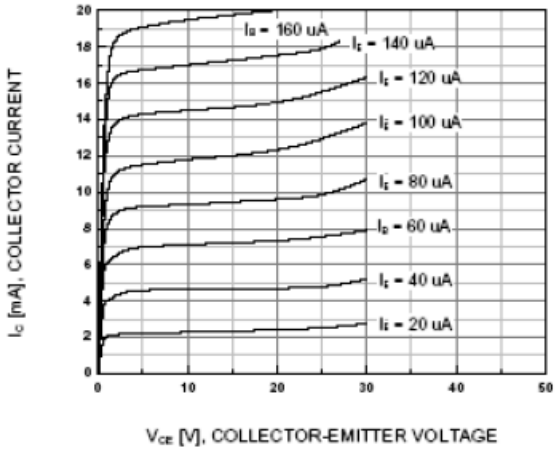

Figure 1. Static Characteristic

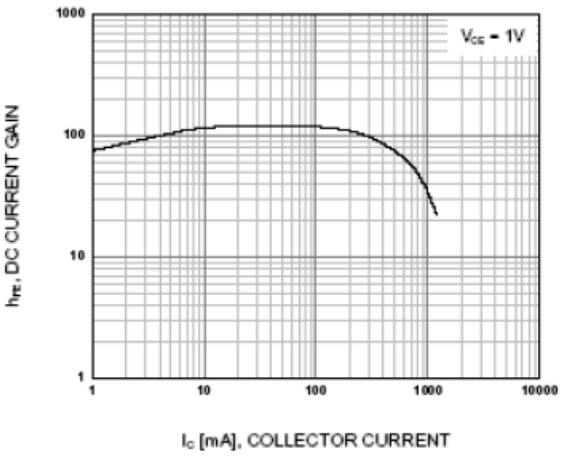

Figure 2. DC current Gain

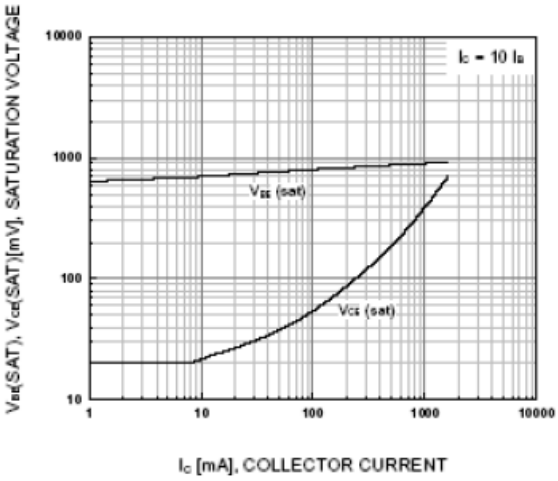

Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

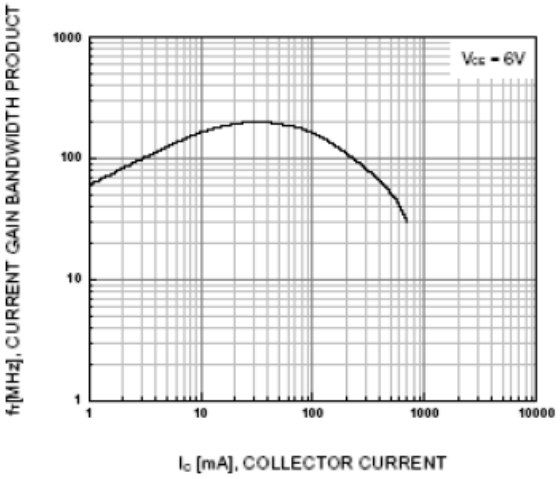

Figure 4. Current Gain Bandwidth Product

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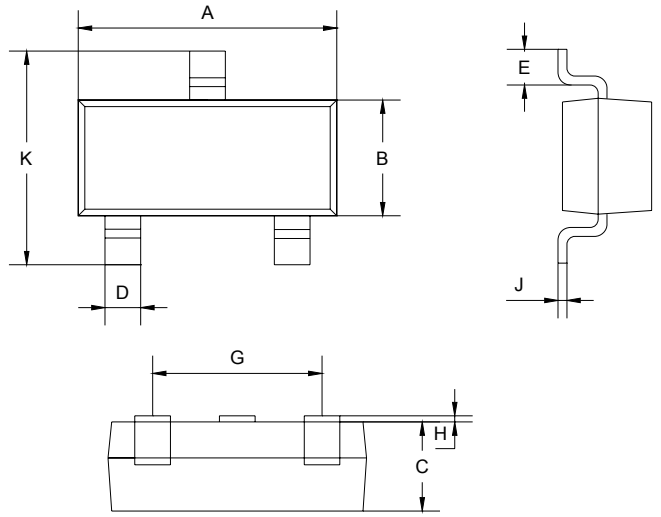
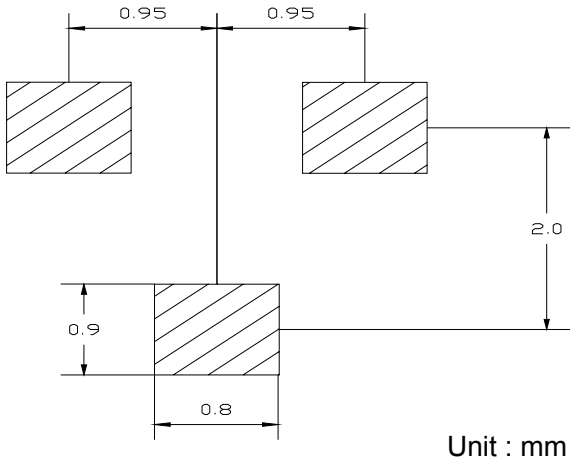
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



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
S9013	SOT-23	3000/Tape&Reel