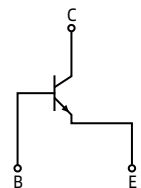


Features

- High Collector Current
- Excellent HFE Linearity



SOT-323



Equivalent Circuit

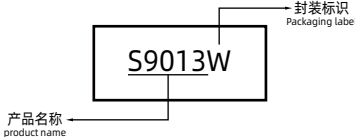
Absolute Maximum Ratings($T_A=25^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	40	V
V_{CE0}	Collector-Emitter Voltage	25	V
V_{EB0}	Emitter-Base Voltage	5	V
I_C	Collector Current	0.5	A
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction And Storage Temperature Range	-55 ~ +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

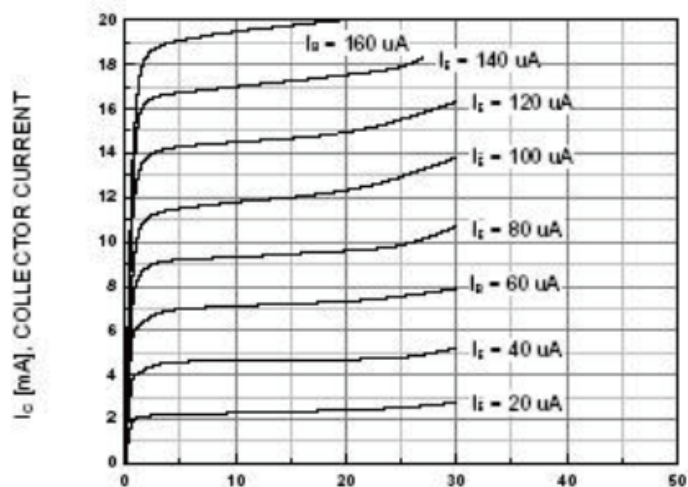
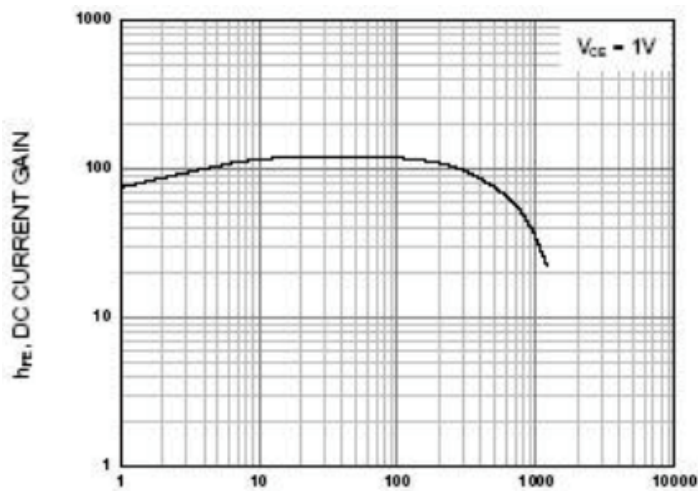
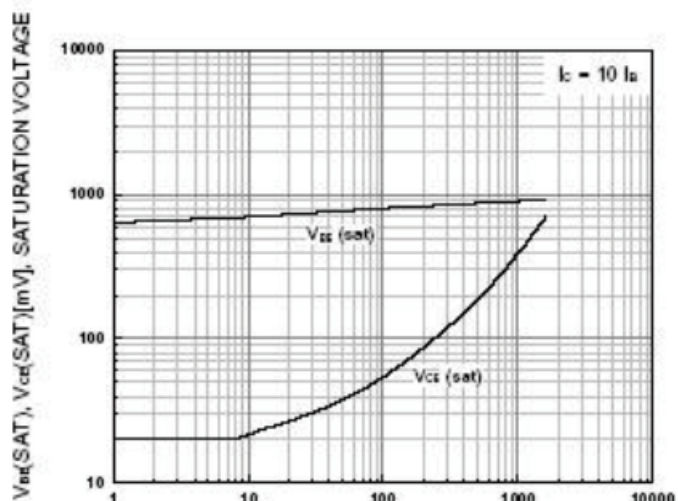
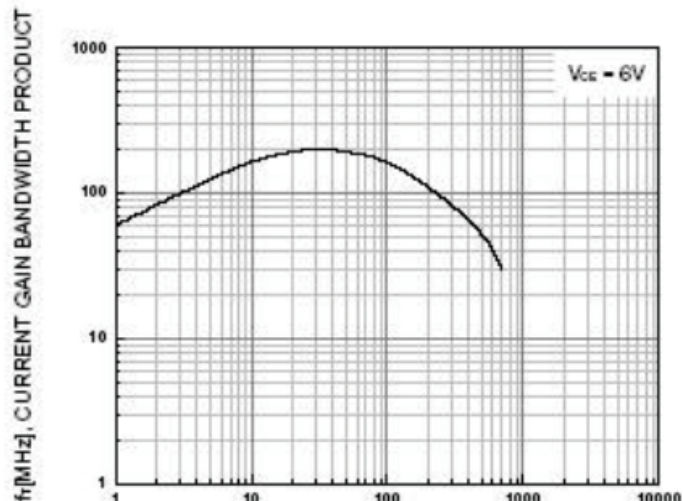
Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu\text{A}, I_E=0$	40			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1\text{mA}, I_B=0$	25			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu\text{A}, I_C=0$	5			V
I_{CBO}	Collector cut-off current	$V_{CB}=40\text{V}, I_E=0$			100	nA
I_{CEO}	Collector cut-off current	$V_{CE}=20\text{V}, I_B=0$			100	nA
I_{EBO}	Emitter cut-off current	$V_{EB}=5\text{V}, I_C=0$			100	nA
h_{FE}	DC current gain	$V_{CE}=1\text{V}, I_C=50\text{mA}$	200		350	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=500\text{mA}, I_B=50\text{mA}$			0.6	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=500\text{mA}, I_B=50\text{mA}$			1.2	V
V_{BE}	Base-emitter voltage	$V_{CE}=1\text{V}, I_C=10\text{mA}$			0.7	V
f_T	Transition frequency	$V_{CE}=6\text{V}, I_C=20\text{mA}, f=30\text{MHz}$	150			MHz
C_{ob}	Collector output capacitance	$V_{CB}=6\text{V}, I_E=0, f=1\text{MHz}$			8	pF

Ordering information

Product ID	Pack	Naming rule	Marking	$h_{FE}(1)$	Qty(PCS)
S9013W	SOT-323		J3	200-350	3000

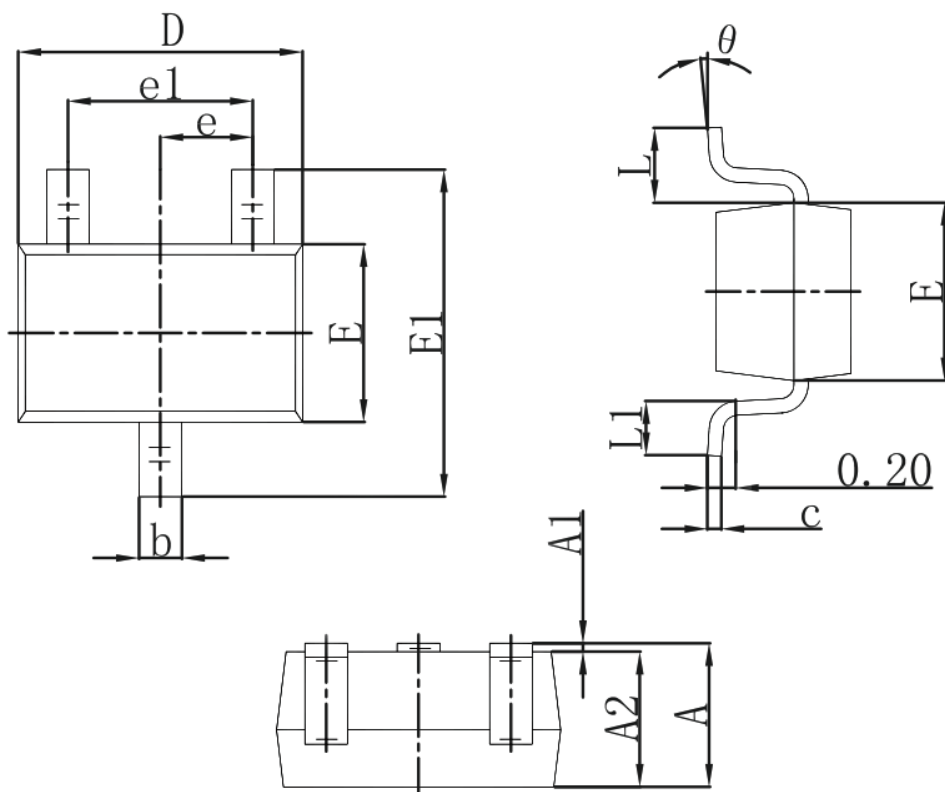


Typical Characteristics

COLLECTOR-EMITTER VOLTAGE V_{CE} (V)COLLECTOR CURRENT I_c (mA)COLLECTOR CURRENT I_c (mA)COLLECTOR CURRENT I_c (mA)



SOT-323 Package Outline Dimensions



Symbol	Dimensions in Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	1.350	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°