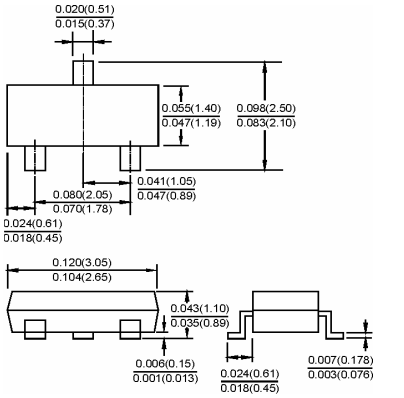
S9012

SOT-23 Transistor(PNP)

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



Dimensions in inches and (millimeters)

Features

- ✧ **Complementary to S9013**
- ✧ **Excellent h_{FE} linearity**

MARKING: 2T1

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

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 Power Dissipation	300	mW
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS (Tamb=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= -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	
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}

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

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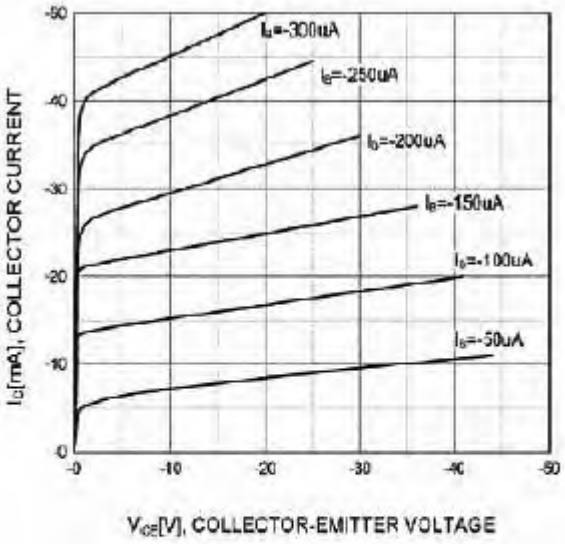
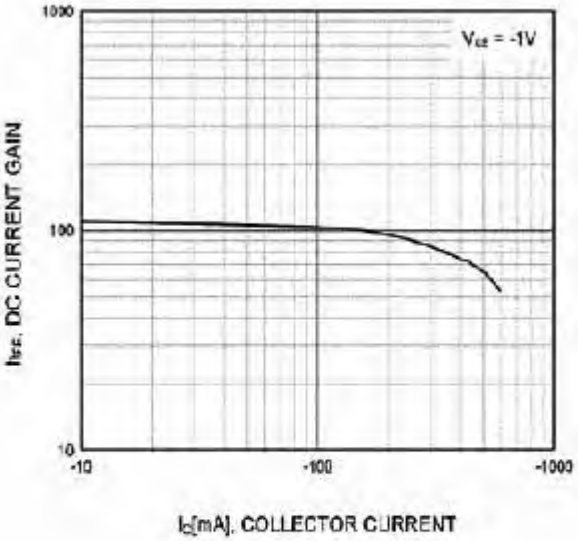
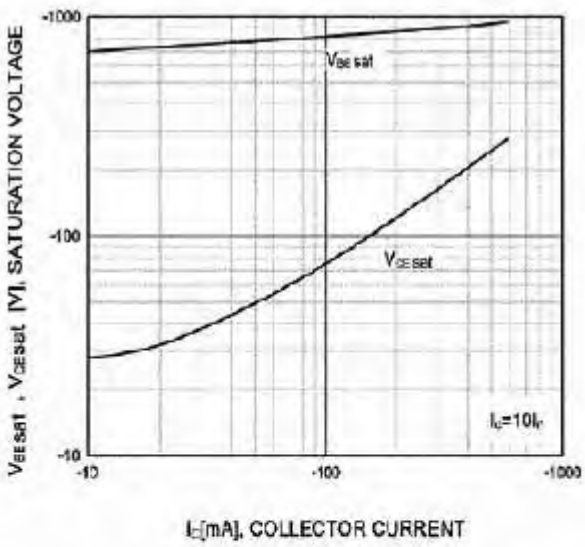
Typical Characteristics



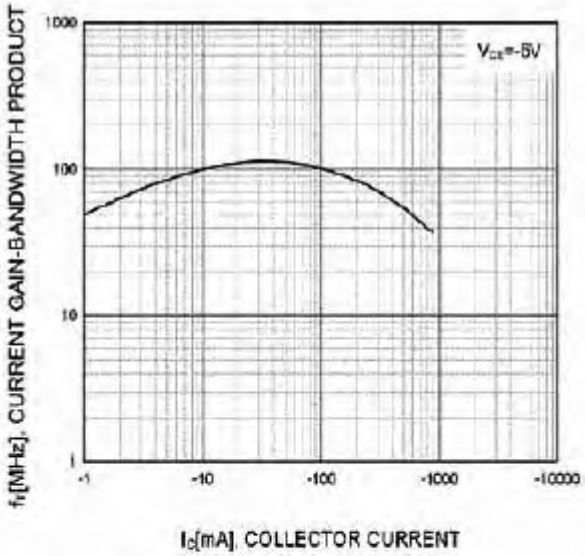
Static Characteristic



DC current Gain



Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage



Current Gain Bandwidth Product