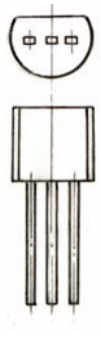
S9012 TRANSISTOR (PNP)

TO-92



1. EMITTER
2. BASE
3. COLLECTOR

1 2 3

FEATURES

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

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	625	mW
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

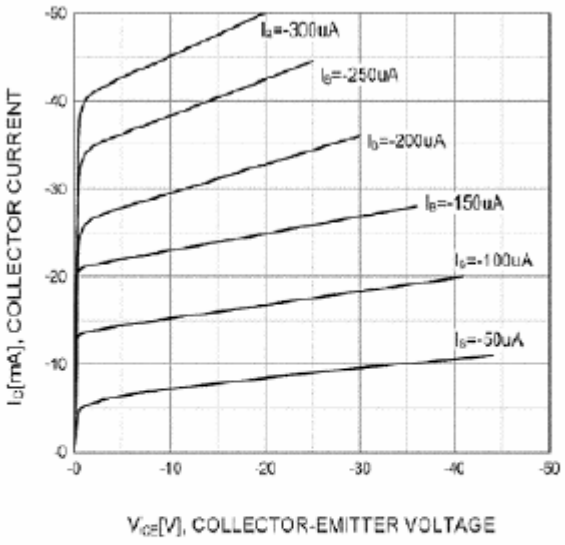
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

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	$h_{FE(1)}$	V_{CE}=-4V,I_C=-1mA	64		400	
	$h_{FE(2)}$	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

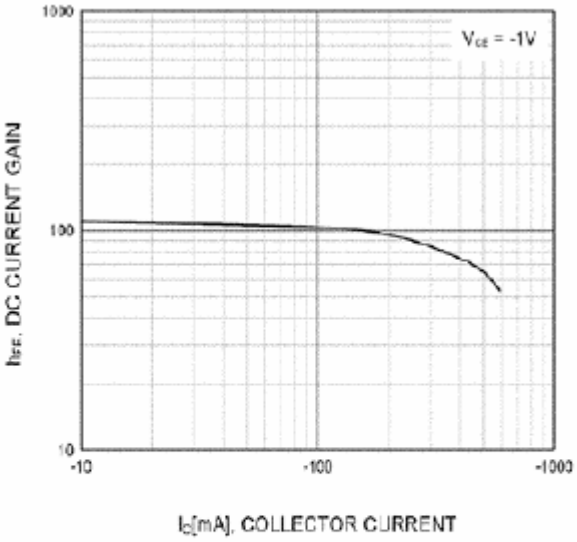
CLASSIFICATION OF $h_{FE(1)}$

Rank	D	E	F	G	H	I	J
Range	64-91	78-112	96-135	112-166	144-202	190-300	300-400

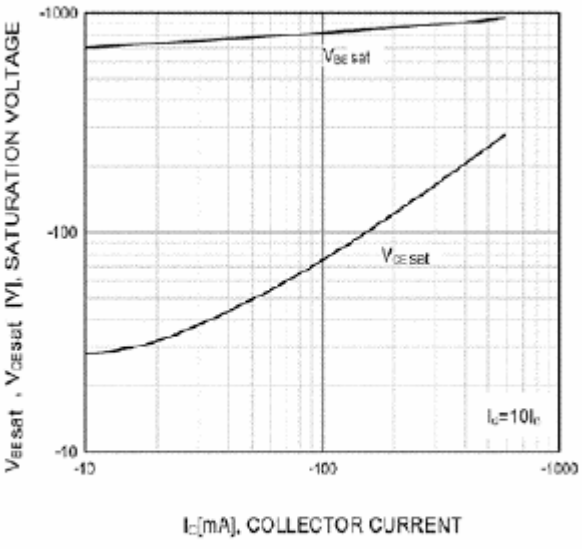
Typical Characteristics S9012



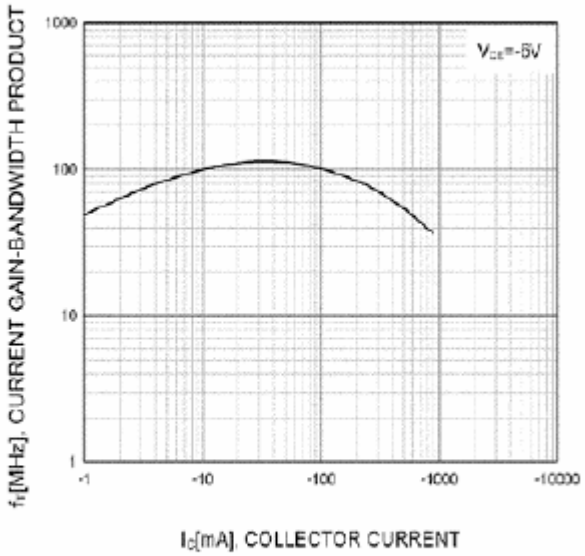
Static Characteristic



DC current Gain



Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage



Current Gain Bandwidth Product