



## SOT-23 Plastic-Encapsulate Transistors

### S9012LT1 TRANSISTOR (PNP)

#### FEATURES

Power dissipation

$P_{CM}$ : 0.3 W ( $T_{amb}=25^{\circ}C$ )

Collector current

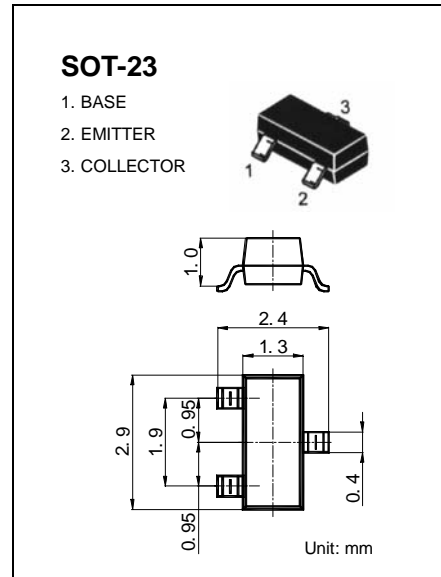
$I_{CM}$ : -0.5 A

Collector-base voltage

$V_{(BR)CBO}$ : -40 V

Operating and storage junction temperature range

$T_J, T_{stg}$ :  $-55^{\circ}C$  to  $+150^{\circ}C$



#### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}C$ 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	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE} = -20V, I_B = 0$			-0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$			-0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE} = -1V, I_C = -50mA$	120		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

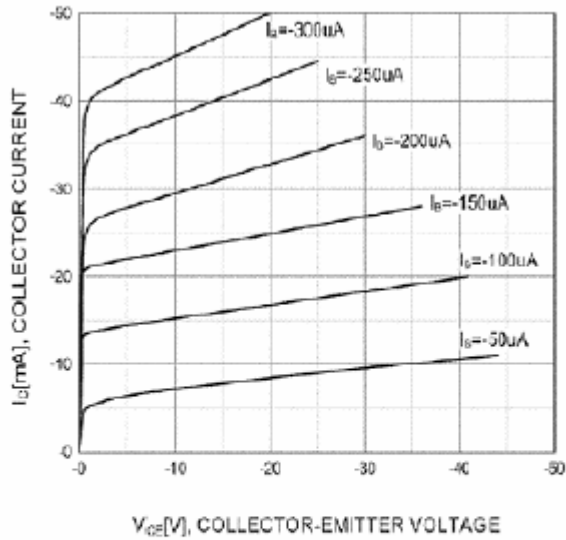
#### CLASSIFICATION OF $h_{FE(1)}$

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

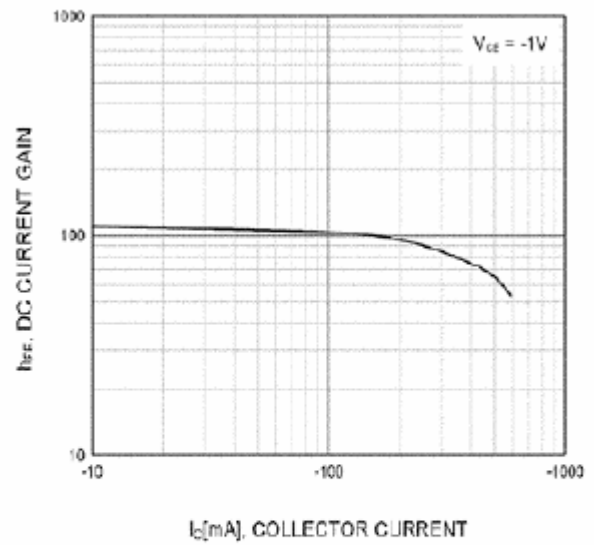
DEVICE MARKING	S9012LT1=2TY
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# Typical Characteristics

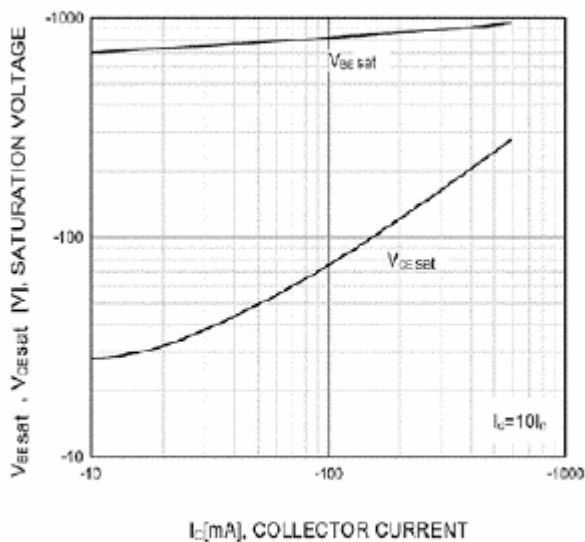
S9012LT1



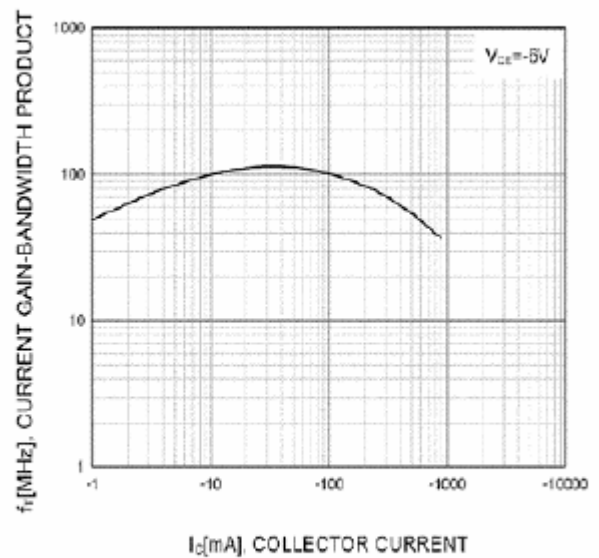
Static Characteristic



DC current Gain



Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage



Current Gain Bandwidth Product