

## S9012LT

### PNP EPITAXIAL SILICON TRANSISTOR

#### Features

- Excellent HFE Linearity HFE
- $h_{FE(2)}=25(\text{Min.})$  at  $V_{CE}=6V$ ,  $I_c=400\text{m}$
- High Total Power Dissipation:  $P_c=225\text{mW}$
- RoHS compliant package

#### Mechanical Data

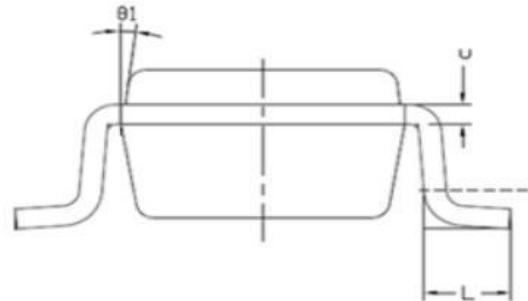
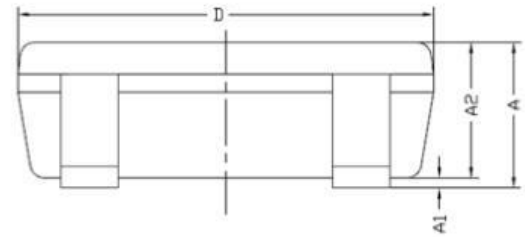
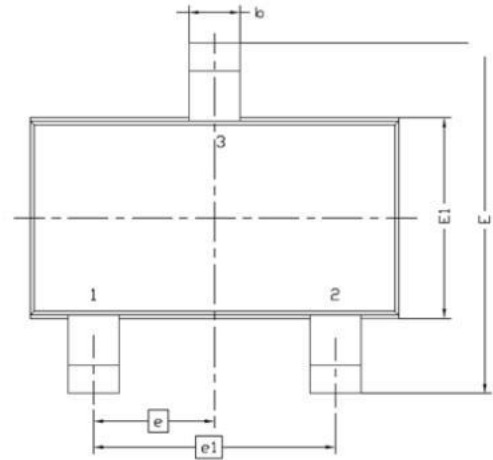
- Case: SOT-23 Molded plastic
- Epoxy: UL94V-O rate flame retardant

#### Packing & Order Information

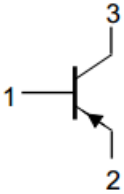
3,000/Reel



**RoHS  
COMPLIANT**



#### Graphic symbol



Symbol	MILLIMETERS	
	MIN	MAX
A	0.8	1.2
A1	0	0.1
A2	0.7	1.1
b	0.3	0.5
c	0.1	0.2
D	2.7	3.1
E	2.6	3
E1	1.4	1.8
e	0.95 BSC	
e1	1.9 BSC	
L	0.3	0.6
$\theta 1$	7° NOM	

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#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

##### MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	S9012	Unit
V <sub>CBO</sub>	Collector-Base Voltage	-40	Vdc
V <sub>CEO</sub>	Collector-Emitter Voltage	-30	Vdc
V <sub>EBO</sub>	Emitter-Base Voltage	-5	Vdc
I <sub>C</sub>	Collector Current	-500	mAdc
P <sub>D</sub>	Collector Power Dissipation	300	mW
T <sub>j</sub> , T <sub>stg</sub>	Junction and Storage Temperature	-55 to +150	°C

##### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Symbol	Parameter	Test Conditions	MIN	TYP	MAX	UNIT
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> = -100μA	-40			V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> = -1 mA	-30			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> = -100μA	-5			V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> = -35 V , I <sub>E</sub> = 0			-0.1	uA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> = -5 V , I <sub>C</sub> = 0			-0.1	uA
h <sub>FE(1)</sub>	DC current gain	V <sub>CE</sub> = -1 V , I <sub>C</sub> = -100 mA	70		400	
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> = -500 mA , I <sub>B</sub> = -50 mA			-0.6	V
V <sub>BE</sub>	Base-Emitter Saturation Voltage	V <sub>CE</sub> = -1 V , I <sub>C</sub> = -100mA		-0.8	-1.0	V
f <sub>T</sub>	Transition frequency	V <sub>CE</sub> = -6 V , I <sub>C</sub> = -20 mA	150	300		MHz
C <sub>ob</sub>	Collector output capacitance	V <sub>CB</sub> = -6 V , I <sub>E</sub> = 0 f = 1.0MHz		7	10	pF

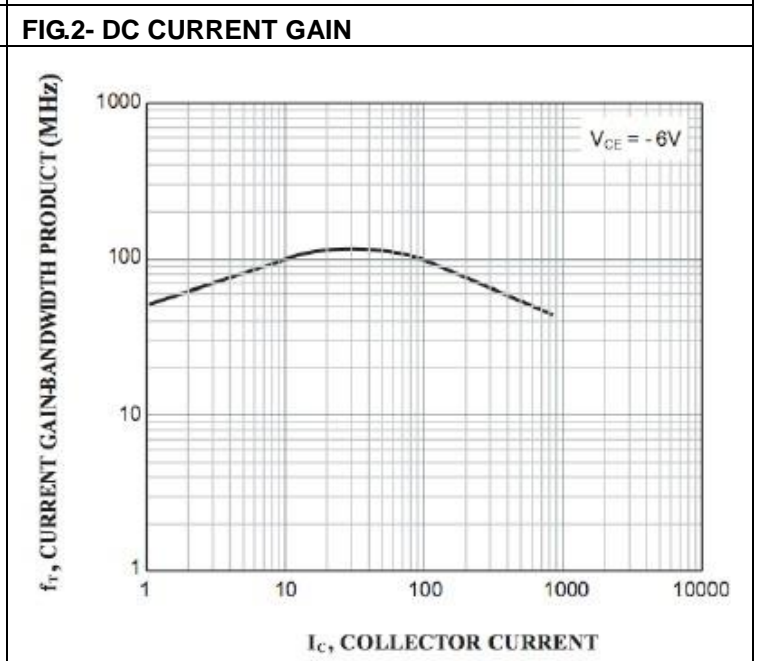
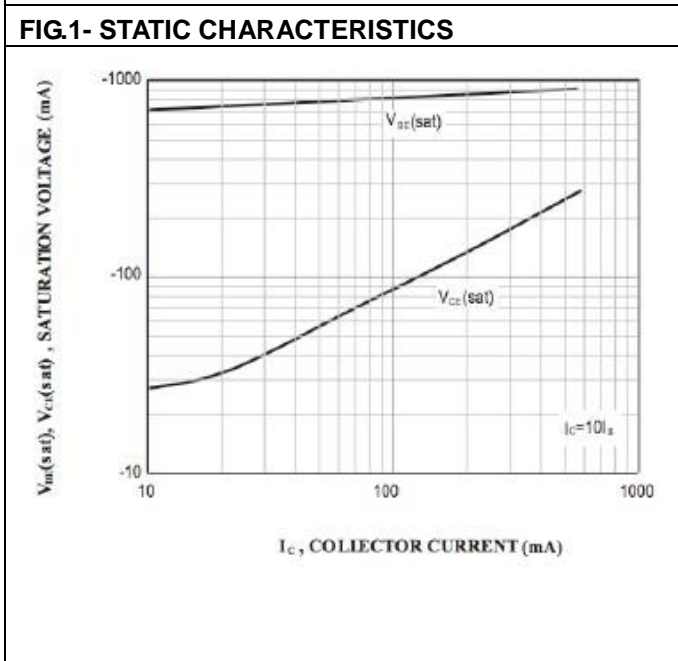
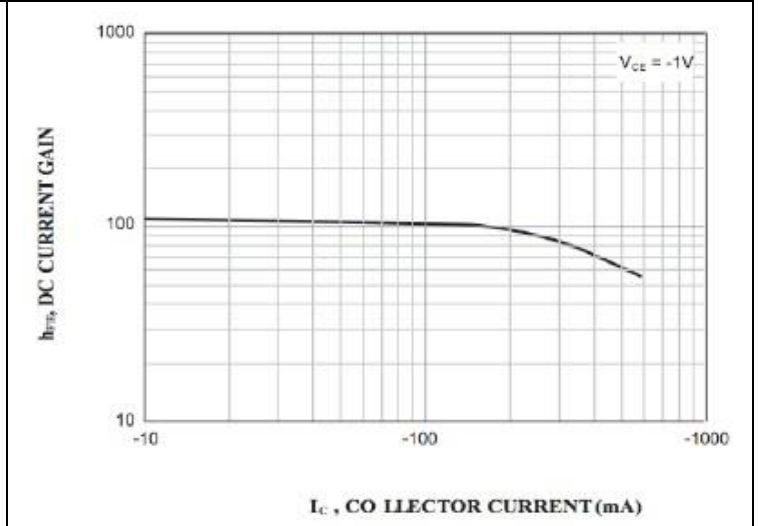
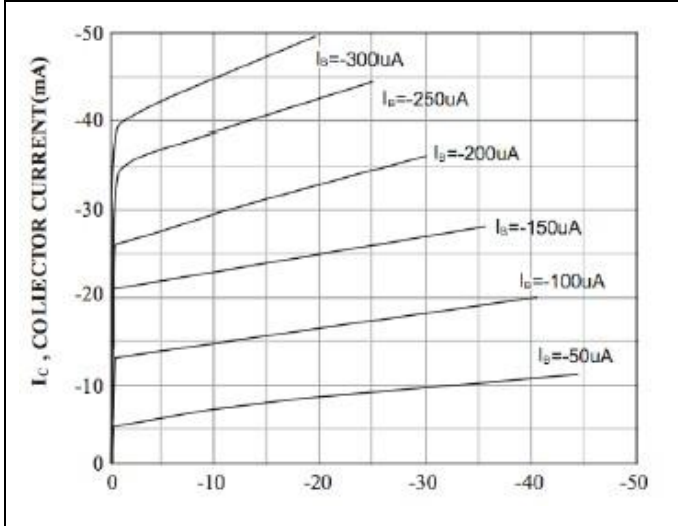
##### CLASSIFICATION OF h<sub>FE</sub>

Rank	L	H
Rang	70-200	200-400

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■ TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



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