

## S9014

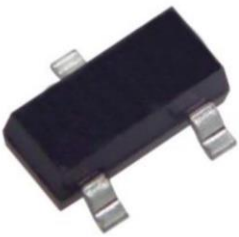
### NPN Plastic-Encapsulate Transistors

#### Mechanical Data

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

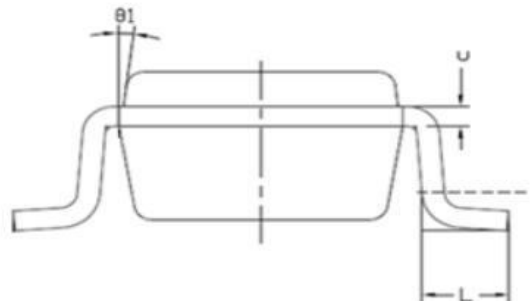
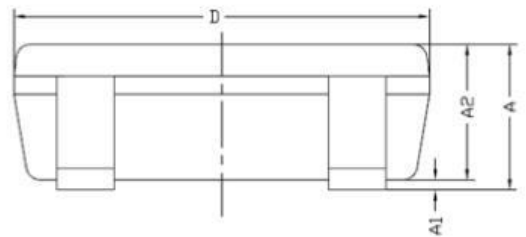
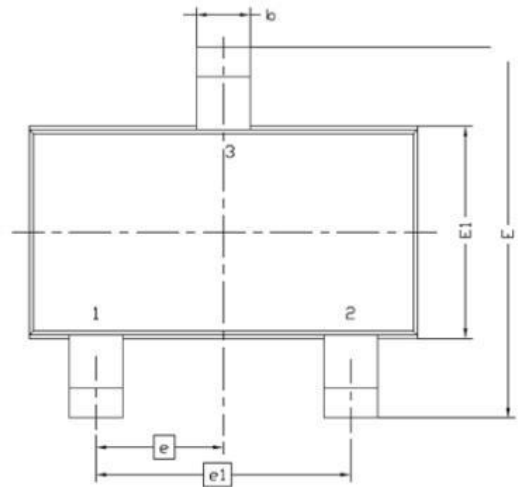
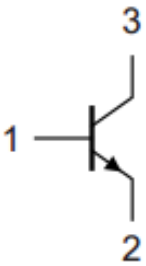
#### Packing & Order Information

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
theta1	7° NOM	

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Transistors

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	45	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current	0.1	A
P <sub>C</sub>	Collector Power Dissipation	0.2	W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	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)CB0</sub>	Collector-base breakdown voltage	I <sub>C</sub> = 100μA , I <sub>E</sub> = 0	50			V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> = 0.1 mA , I <sub>B</sub> = 0	45			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> = 100μA , I <sub>C</sub> = 0	5			V
I <sub>CB0</sub>	Collector cut-off current	V <sub>CB</sub> = 50 V , I <sub>E</sub> = 0			0.1	μA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CB</sub> = 35 V , I <sub>E</sub> = 0			0.1	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> = 3 V , I <sub>C</sub> = 0			0.1	μA
h <sub>FE</sub>	DC current gain	V <sub>CE</sub> = 5 V , I <sub>C</sub> = 1 mA	200		1000	
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> = 100 mA , I <sub>B</sub> = 5 mA			0.3	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 100 mA , I <sub>B</sub> = 5 mA			1.0	V
f <sub>T</sub>	Transition frequency	V <sub>CE</sub> = 5 V , I <sub>C</sub> = 10 mA f = 30 MHz	150			MHz

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■ RATINGS AND CHARACTERISTIC CURVES

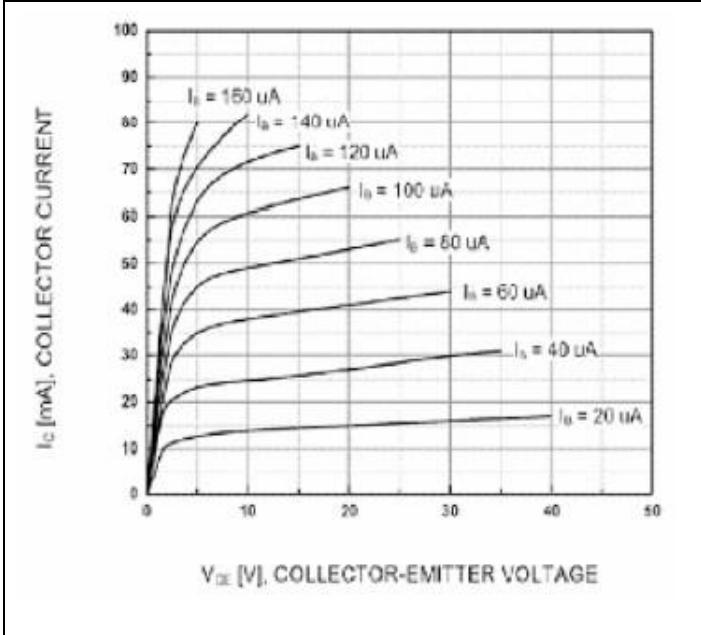


FIG.1- STATIC CHARACTERISTICS

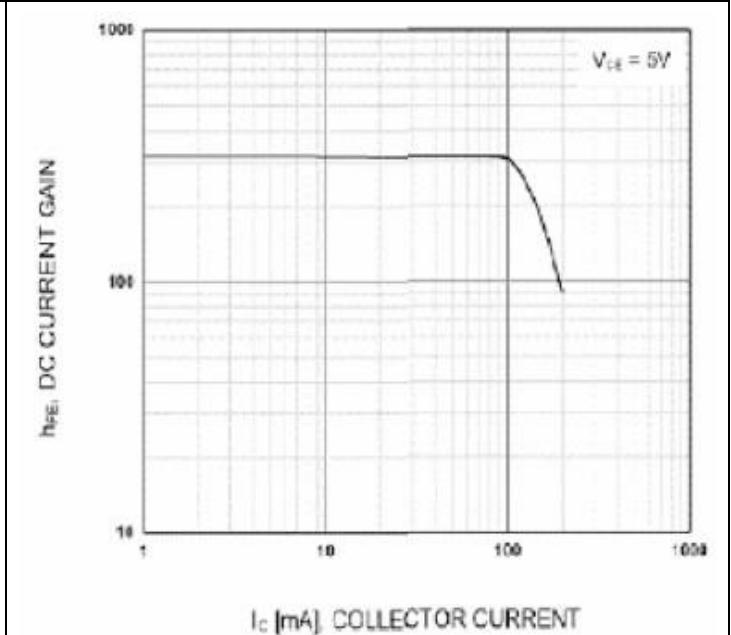


FIG.2- DC CURRENT GAIN

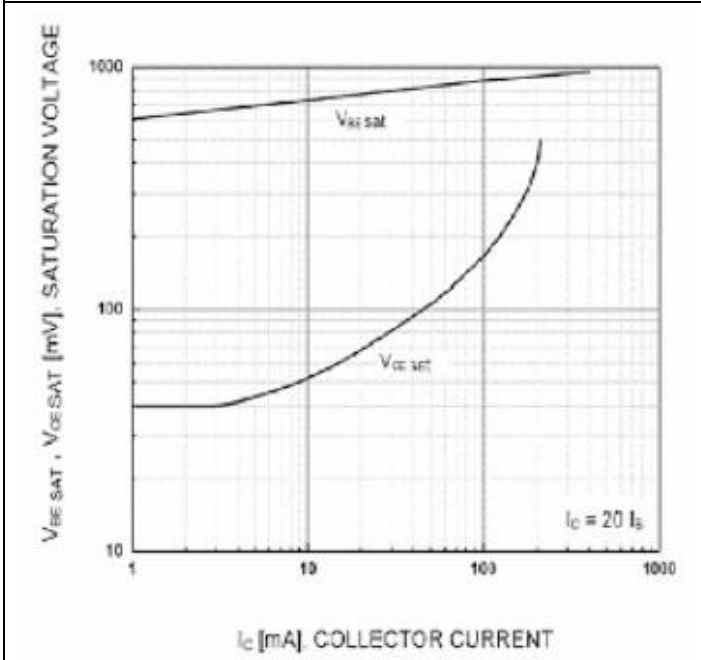


FIG.3- BASE-EMITTER SATURATION VOLTAGE COLLECTOR-EMITTER SATURATION VOLTAGE

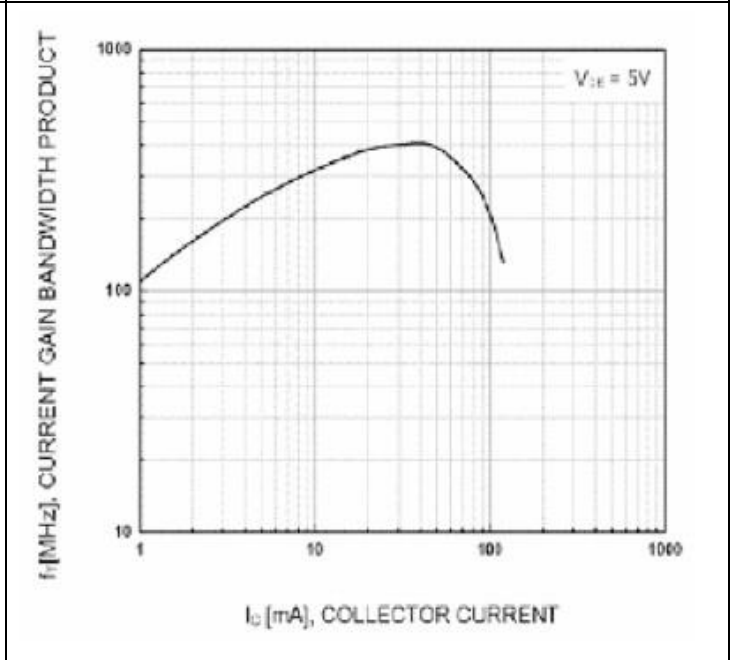


FIG.4- CURRENT GAIN BANDWIDTH PRODUCT

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