

# SOT-323 Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

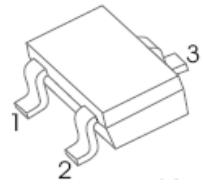
## FEATURES

- Complementary to S9015W
- Small Surface Mount Package

**MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Unit
V <sub>CBO</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	100	mA
P <sub>c</sub>	Collector Power Dissipation	200	mW
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	625	°C/W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C

**SOT - 323**



1. BASE
2. Emitter
3. Collector

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>c</sub> =100μA, I <sub>e</sub> =0	50			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>c</sub> =100μA, I <sub>b</sub> =0	45			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>e</sub> =100μA, I <sub>c</sub> =0	5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =50V, I <sub>e</sub> =0			100	nA
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> =35V, I <sub>b</sub> =0			100	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>c</sub> =0			100	nA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>c</sub> =1mA	200		1000	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =100mA, I <sub>b</sub> =5mA			0.3	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =100mA, I <sub>b</sub> =5mA			1	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> =5V, I <sub>c</sub> =2mA	0.58		0.7	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>c</sub> =10mA, f=30MHz	150			MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>e</sub> =0, f=1MHz			3.5	pF

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

RANK	L	H
RANGE	200 ~ 450	450 ~ 1000
MARKING	J6	

## **SOT-323 PACKAGE OUTLINE DIMENSIONS**

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