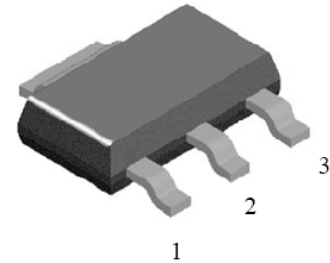


## Silicon NPN bipolar Transistor

### Applications:

- general amplify
- switching application.



### Pin assignment

PIN NAME	PIN NUMBER	FUNCTION
	SOT-223	
B	1	BASE
C	2	COLLECTOR
E	3	EMITTER

### Absolute Maximum Ratings $T_A=25^{\circ}\text{C}$ Unless Otherwise noted

PARAMETER	SYMBLE	MAXIMUM VALUE	UNIT
Collector-base breakdown voltage	VCBO	60	V
Collector-emitter breakdown voltage	VCEO	40	V
Emitter-base breakdown voltage	VEBO	6	V
Collector current	IC	0.2	A
Collector Power Dissipation	PD	0.625	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150 °C	°C

### DEVICE MARKING

Marking	3904
Value	100~300

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

PARAMETER	SYMBLE	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Collector cut-off current	ICBO			0.05	μA	V <sub>CB</sub> =50V, I <sub>E</sub> =0
Emitter cut-off current	IEBO			0.05	μA	V <sub>EB</sub> =5V, I <sub>C</sub> =0
Collector-base breakdown voltage	V(BR)CBO	60			V	I <sub>C</sub> =10uA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	V(BR)CEO	40			V	I <sub>C</sub> =1mA, I <sub>B</sub> =0
Emitter-Base Breakdown Voltage	V(BR)EBO	6			V	I <sub>E</sub> =10uA, I <sub>C</sub> =0
DC current gain	hFE*	100		300		V <sub>CE</sub> =1V, I <sub>C</sub> =10mA
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>			0.3	V	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>			0.95	V	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA
Gain Bandwidth	f <sub>T</sub>	300			MHz	V <sub>CE</sub> =20V, I <sub>C</sub> =10mA, f=100MHz
Cob	Cob			4	pF	V <sub>CB</sub> =5V, I <sub>E</sub> =0, f=1MHz

**SOT-223 DIMENSION (Unit: mm)**

