



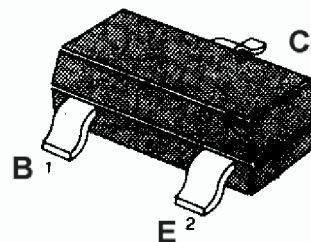
APPLICATION: General purpose applications.

—NPN silicon—

## MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Collector-base voltage	V <sub>CB0</sub>	50	V
Collector-emitter voltage	V <sub>CEO</sub>	45	V
Emitter-base voltage	V <sub>EBO</sub>	5	V
Collector current	I <sub>C</sub>	100	mA
Collector Power Dissipation	P <sub>C</sub>	310	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	- 55~150	°C

SOT-23



1.Base 2.Emmitter 3.Collector

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
DC Current Gain	h <sub>FE</sub>	110		800		V <sub>CE</sub> = 5 V, I <sub>C</sub> = 2 mA
Collector Cut-off Current	I <sub>CB0</sub>			0.015	μA	V <sub>CB</sub> = 30 V, I <sub>E</sub> =0
Emitter Cut-off Current	I <sub>EBO</sub>			0.015	μA	V <sub>EB</sub> = 5V, I <sub>C</sub> =0
Collector-Base Breakdown Voltage	BV <sub>CB0</sub>	50			V	I <sub>C</sub> = 0.1 mA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	45			V	I <sub>C</sub> = 1 mA, I <sub>B</sub> =0
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	6			V	I <sub>E</sub> = 0.1 mA, I <sub>C</sub> =0
Base-Emitter Voltage	V <sub>BE</sub>			0.7	V	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 2 mA
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>			0.25	V	I <sub>C</sub> = 100 mA, I <sub>B</sub> = 0.5 mA
			0.2	0.6		I <sub>C</sub> = 100 mA, I <sub>B</sub> = 5 mA
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>		0.7		V	I <sub>C</sub> = 100mA, I <sub>B</sub> = 0.5 mA
			0.9			I <sub>C</sub> = 100 mA, I <sub>B</sub> = 5 mA
Gain bandwidth product	f <sub>T</sub>	150	300		MHz	I <sub>C</sub> = 10mA, V <sub>CE</sub> = 5V, f = 100MHz
Common Base Output Capacitance	C <sub>ob</sub>		3.5	6	PF	V <sub>CB</sub> = 10 V, I <sub>E</sub> =0, f = 1 MHz
Noise Figure	NF		1.2	4	dB	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 0.2 mA, f= 1kHz, R <sub>g</sub> = 2kΩ

h<sub>FE</sub> Classification And Marking

Print Mark	8DA	8DB	8DC
Classification	A	B	C
h <sub>FE</sub>	110~220	200~450	420~800