

## Descriptions

Silicon NPN transistor in a SOT-23 Plastic Package

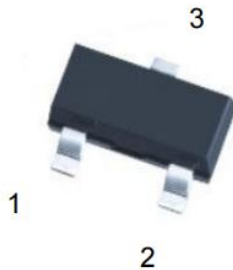
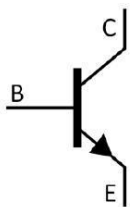
## Features

- Low  $V_{CE(sat)}$
- High current
- Halogen-free product

## Applications

- General purpose switching and muting
- LCD back-lighting
- Supply line switching circuits

## Equivalent Circuit & Pinning



PIN1: Base

PIN 2: Emitter

PIN 3: Collector

## hFE Classifications & Marking

h <sub>FE</sub> Range	220~450
Marking	HZG

## Absolute Maximum Ratings(Ta=25°C)

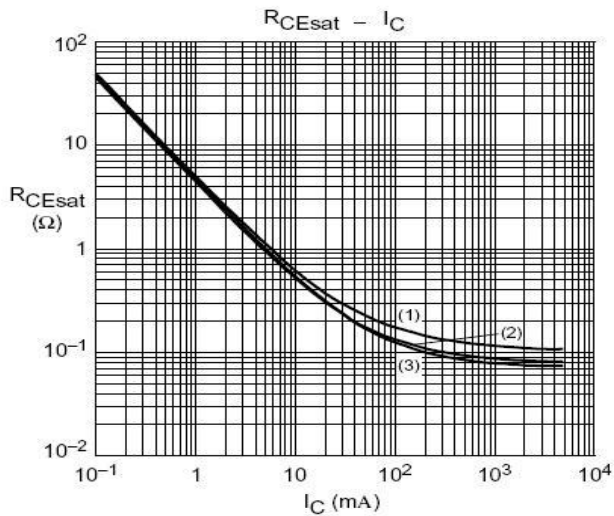
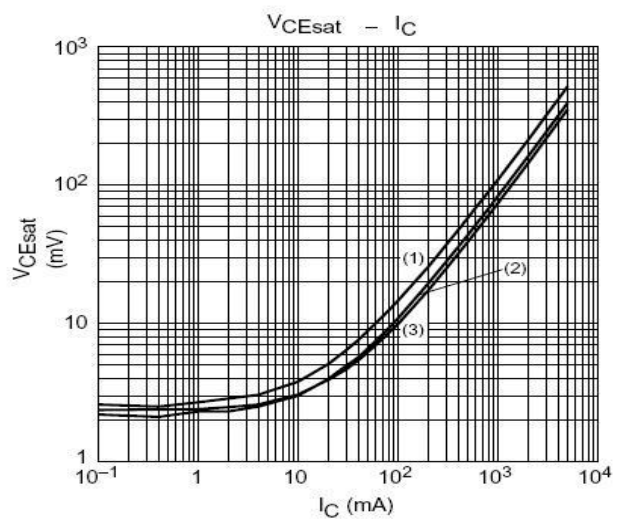
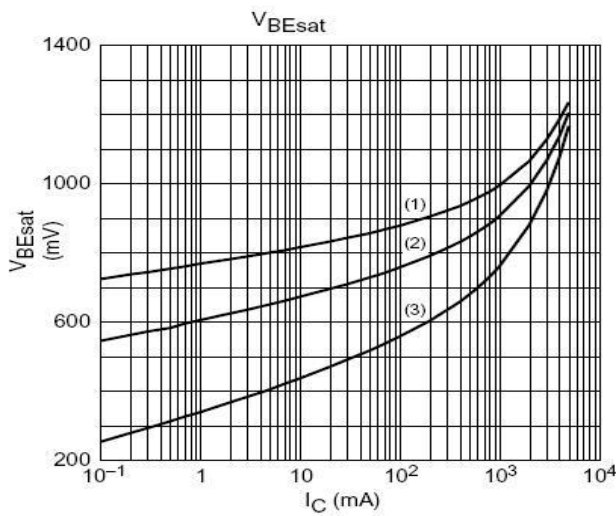
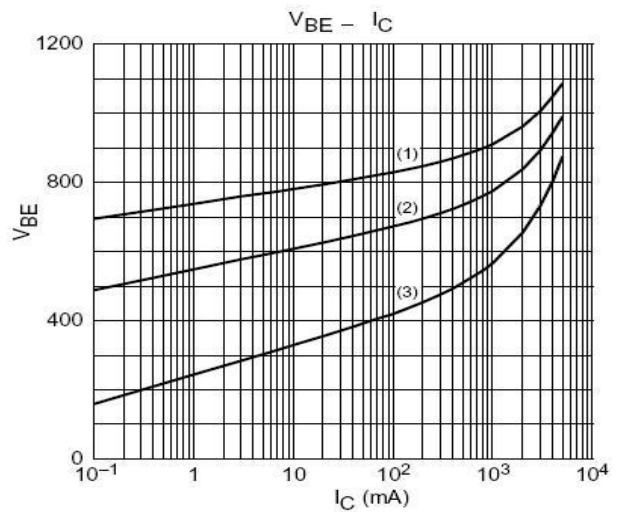
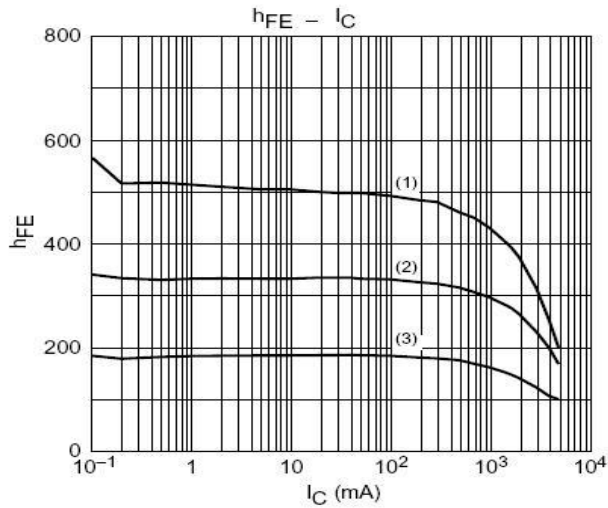
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V <sub>CB0</sub>	20	V
Collector to Emitter Voltage	V <sub>CEO</sub>	20	V
Emitter to Base Voltage	V <sub>EBO</sub>	5.0	V
Collector Current	I <sub>C</sub>	2.0	A
Peak Collector Current	I <sub>CM</sub>	5.0	A
Base Current	I <sub>B</sub>	0.5	A
Total Power Dissipation	P <sub>tot(1)</sub> 注2	300	mW
	P <sub>tot(2)</sub> 注1、2	1.2	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-65~150	°C

1. 脉冲条件下操作：脉冲宽度tp ≤ 100 ms，占空比δ ≤ 0.25。
2. 器件安装在印刷电路板上。

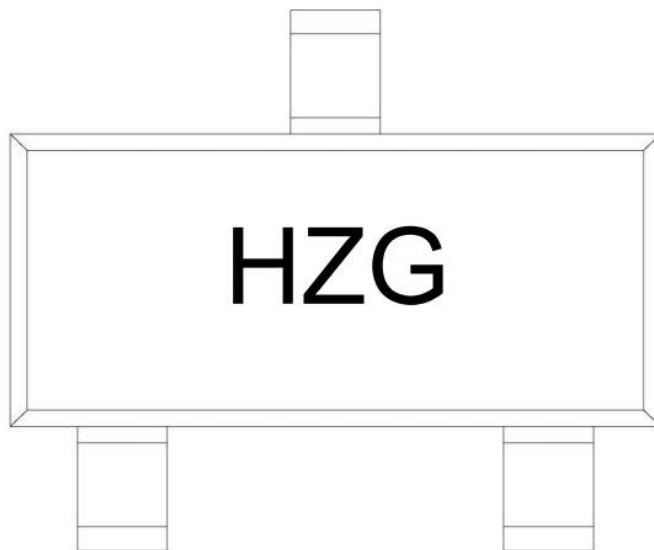
## Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =20V I <sub>E</sub> =0			0.1	μA
		V <sub>CB</sub> =20V I <sub>E</sub> =0 T <sub>j</sub> =150°C			-50	μA
Emitter Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =5.0V I <sub>C</sub> =0			0.1	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =500mA	220		450	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =100mA	220			
	*h <sub>FE(3)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =1.0A	220			
	*h <sub>FE(4)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =2.0A	150			
	*h <sub>FE(5)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =3.0A	100			
Collector-Emitter Saturation Voltage	V <sub>CE(sat)(1)</sub>	I <sub>C</sub> =500mA I <sub>B</sub> =50mA			100	mV
	V <sub>CE(sat)(2)</sub>	I <sub>C</sub> =1.0A I <sub>B</sub> =50mA			150	mV
Equivalent On-Resistance	*R <sub>CCE(sat)</sub>	I <sub>C</sub> =2.0A I <sub>B</sub> =200mA		90	120	mΩ
Base-Emitter Saturation Voltage	*V <sub>BE(sat)</sub>	I <sub>C</sub> =2.0A I <sub>B</sub> =40mA			1.1	V
		I <sub>C</sub> =3.0A I <sub>B</sub> =300mA			1.2	V
Base-Emitter Voltage	*V <sub>BE(ON)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =1.0A			1.2	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =5.0V I <sub>C</sub> =100mA f=100MHz	100			MHz
Collector Capacitance	C <sub>C</sub>	V <sub>CB</sub> =10V I <sub>E</sub> =0 f=1.0MHz			35	pF

Electrical Characteristic Curve



**Marking Instructions**



Note:

H: Company Code.

ZG: Product Type Code.

**Packaging SPEC**

REEL INFORMATION

Package Type	Units					Dimension (unit: mm <sup>3</sup> )		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

Package Outline Dimensions

SOT-23

单位: mm

