

**Description**

Silicon NPN transistor in a SOT-23 Plastic Package

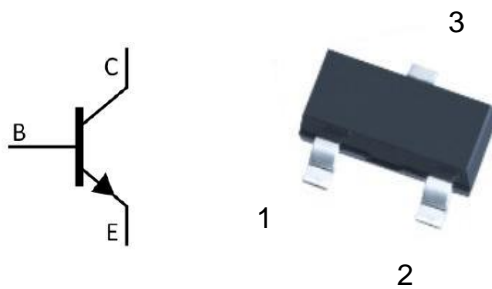
**Features**

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

**Applications**

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

Symbol	Parameter	Max	Unit
$V_{CE0}$	collector-emitter voltage	20	V
$I_C$	collector current (DC)	2.0	mA

**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	$V_{CBO}$	20	V
Collector to Emitter Voltage	$V_{CEO}$	20	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current	$I_C$	2.0	A
Peak Collector Current	$I_{CM}$	5.0	A
Base Current	$I_B$	0.5	A
Total Power Dissipation	$P_{tot(1)}$ 注2	300	mW
	$P_{tot(2)}$ 注1、2	1.2	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-65~150	°C

注:

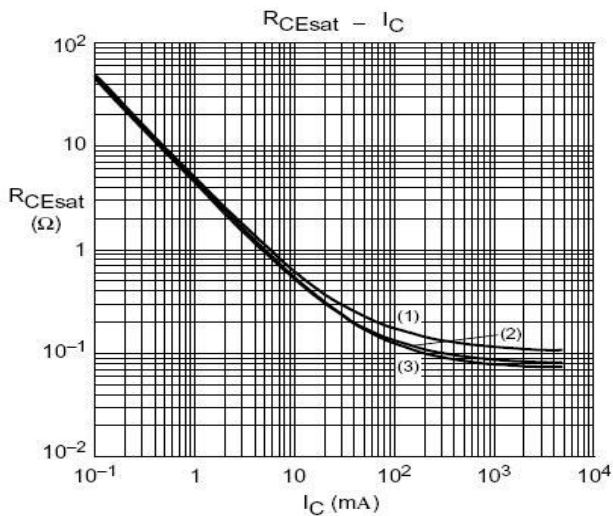
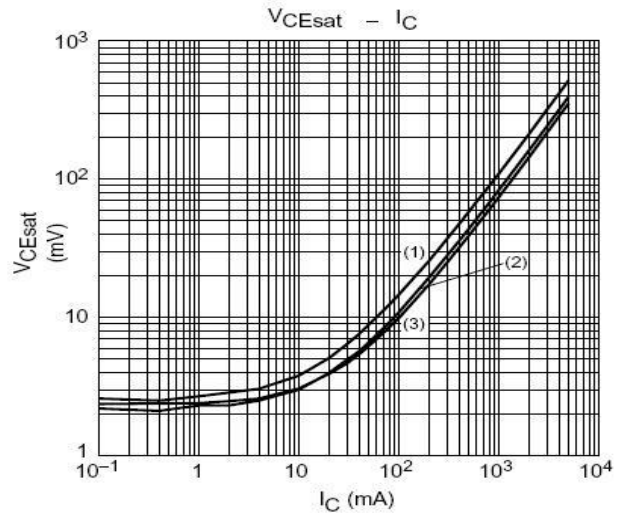
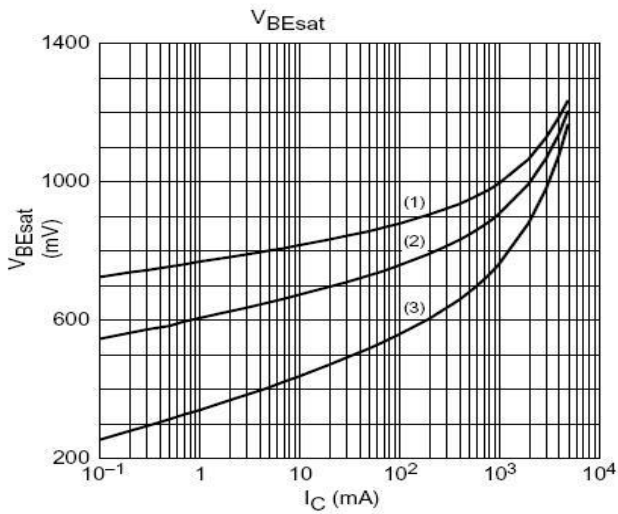
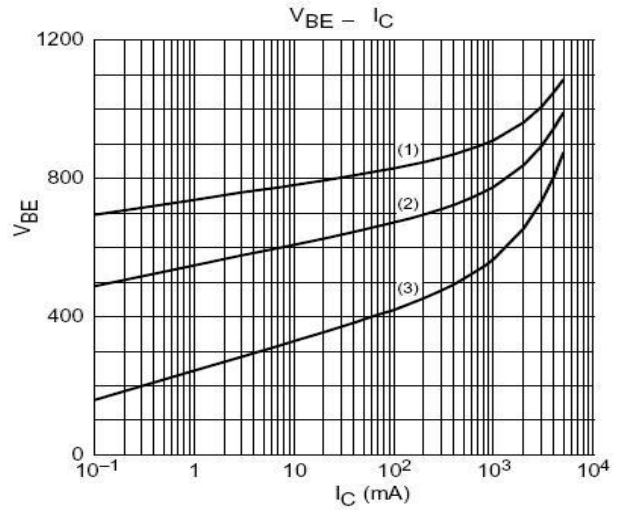
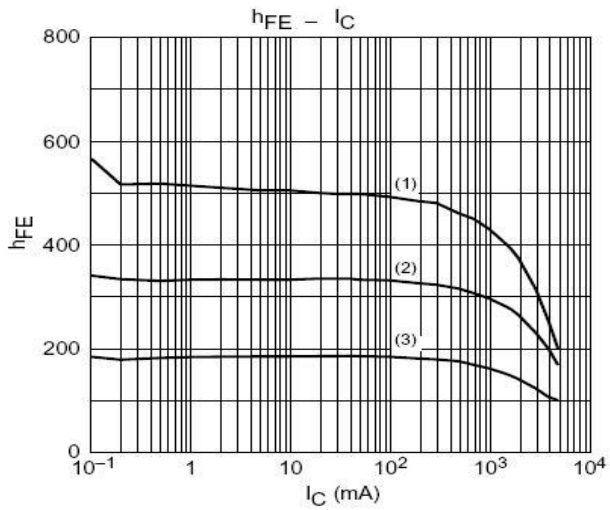
1. 脉冲条件下操作: 脉冲宽度 $t_p \leq 100 \text{ ms}$ , 占空比 $\delta \leq 0.25$ 。
2. 器件安装在印刷电路板上。

**Electrical Characteristics(Ta=25°C)**

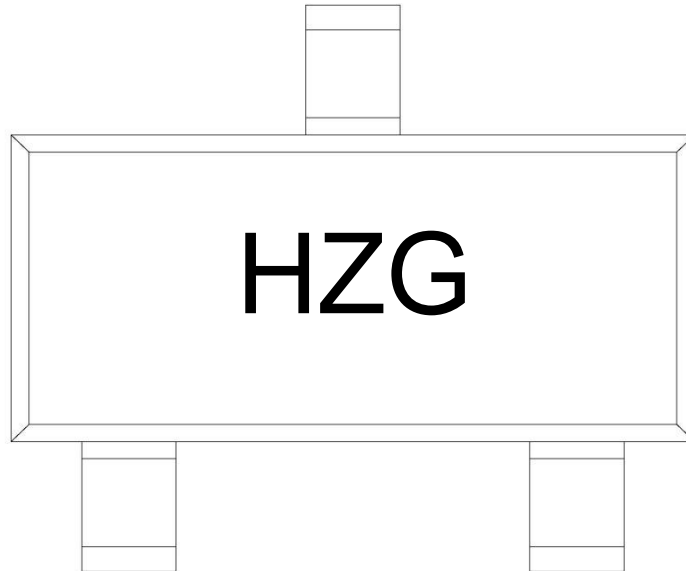
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=20V$ $I_E=0$			0.1	$\mu A$
		$V_{CB}=20V$ $I_E=0$ $T_j=150^\circ C$			-50	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5.0V$ $I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0V$ $I_C=500mA$	220		450	
	$h_{FE(2)}$	$V_{CE}=2.0V$ $I_C=100mA$	220			
	* $h_{FE(3)}$	$V_{CE}=2.0V$ $I_C=1.0A$	220			
	* $h_{FE(4)}$	$V_{CE}=2.0V$ $I_C=2.0A$	150			
	* $h_{FE(5)}$	$V_{CE}=2.0V$ $I_C=3.0A$	100			
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=500mA$ $I_B=50mA$			100	mV
	$V_{CE(sat)(2)}$	$I_C=1.0A$ $I_B=50mA$			150	mV
Equivalent On-Resistance	* $R_{CE(sat)}$	$I_C=2.0A$ $I_B=200mA$		90	120	m $\Omega$
Base-Emitter Saturation Voltage	* $V_{BE(sat)}$	$I_C=2.0A$ $I_B=40mA$			1.1	V
		$I_C=3.0A$ $I_B=300mA$			1.2	V
Base-Emitter Voltage	* $V_{BE(ON)}$	$V_{CE}=2.0V$ $I_C=1.0A$			1.2	V
Transition Frequency	$f_T$	$V_{CE}=5.0V$ $I_C=100mA$ $f=100MHz$	100			MHz
Collector Capacitance	$C_C$	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$			35	pF

 \*注: 脉冲测试:  $t_p \leq 300 \mu s$ ;  $\delta \leq 0.02$ .

Electrical Characteristic Curve



Marking Instructions



Note:

H: Company Code.

ZG: Product Type Code.

Packaging SPEC.

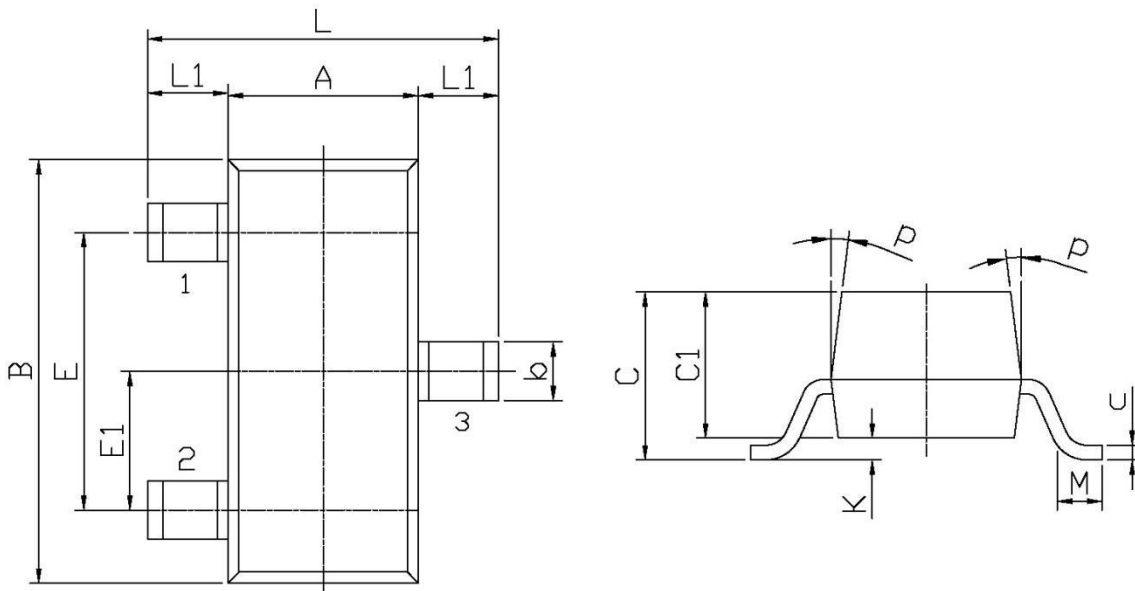
REEL INFORMATION

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" x8	180×120×180	390×385×205

Package Outline Dimensions

SOT-23

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			