

### 描述 / Descriptions

SOT-23 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-23 Plastic Package.

### 特征 / Features

与 BR8550MQ 互补，符合 AEC-Q101 标准高可靠性要求，无卤产品。

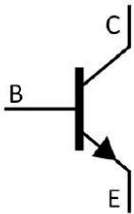
Complementary pair with BR8550MQ, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

### 用途 / Applications

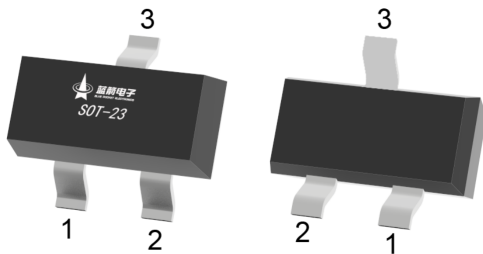
用于功率放大电路，满足汽车应用的严格要求。

Power amplifier applications, Meet the stringent requirements of automotive applications.

### 内部等效电路 / Equivalent Circuit



### 引脚排列 / Pinning



PIN1 : Base      PIN 2 : Emitter      PIN 3 : Collector

### 放大及印章代码 / h<sub>FE</sub> Classifications & Marking

h <sub>FE</sub> Classifications Symbol	B	C	D
h <sub>FE</sub> Range	85~160	120~200	160~300
Marking	QHY1B	QHY1C	QHY1D

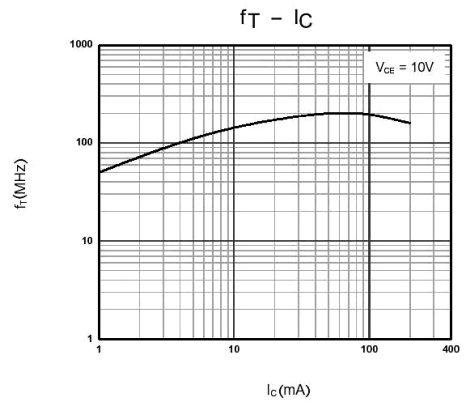
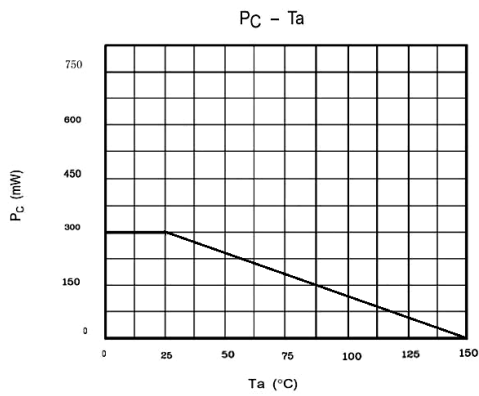
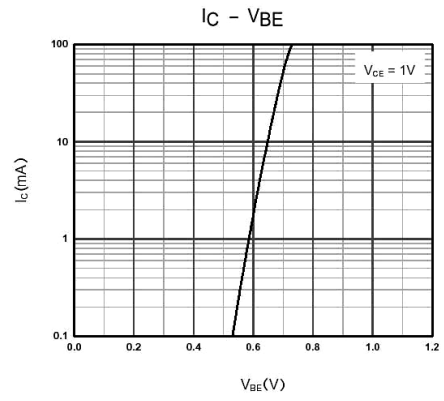
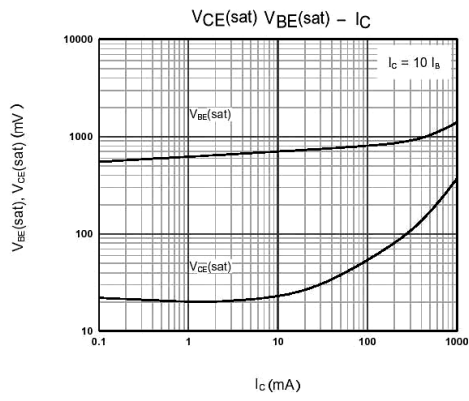
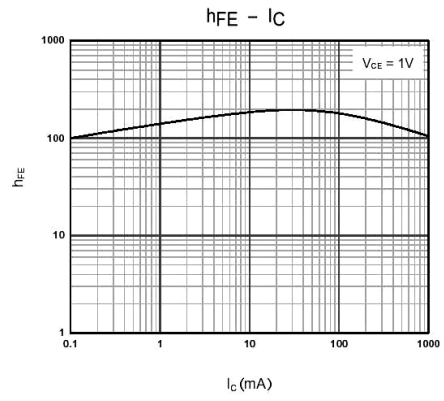
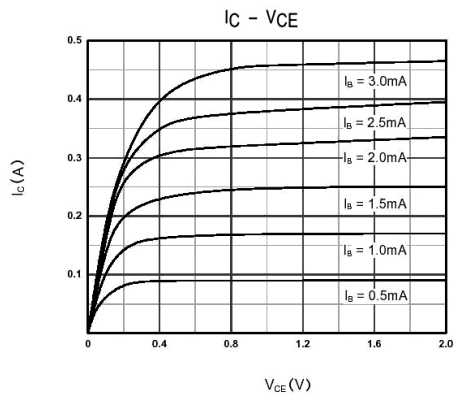
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V <sub>CBO</sub>	40	V
Collector to Emitter Voltage	V <sub>CEO</sub>	25	V
Emitter to Base Voltage	V <sub>EBO</sub>	6	V
Collector Current - Continuous	I <sub>C</sub>	1.5	A
Base Current	I <sub>B</sub>	0.5	A
Collector Power Dissipation	P <sub>C</sub>	300	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ 150	°C

**电性能参数 / Electrical Characteristics(Ta=25°C)**

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector to Base Breakdown Voltage	V <sub>CBO</sub>	I <sub>C</sub> =0.1mA I <sub>E</sub> =0	40			V
Collector to Emitter Breakdown Voltage	V <sub>CEO</sub>	I <sub>C</sub> =2.0mA I <sub>B</sub> =0	25			V
Emitter to Base Breakdown Voltage	V <sub>EBO</sub>	I <sub>C</sub> =0.1mA I <sub>C</sub> =0	6.0			V
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =35V I <sub>E</sub> =0			0.1	μA
Emitter Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =6.0V I <sub>C</sub> =0			0.1	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =1.0V I <sub>C</sub> =100mA	85		300	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =1.0V I <sub>C</sub> =800mA	40			
	h <sub>FE(3)</sub>	V <sub>CE</sub> =1.0V I <sub>C</sub> =5.0mA	45			
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =800mA I <sub>B</sub> =80mA		0.28	0.5	V
Base to Emitter Voltage	V <sub>BE</sub>	V <sub>CE</sub> =1.0V I <sub>C</sub> =10mA		0.66	1.0	V
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =800mA I <sub>B</sub> =80mA		0.98	1.2	V
Transition Frequency	f <sub>T</sub>	I <sub>C</sub> =50mA V <sub>CE</sub> =10V	100	190		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V f=1.0MHz		9.0		pF

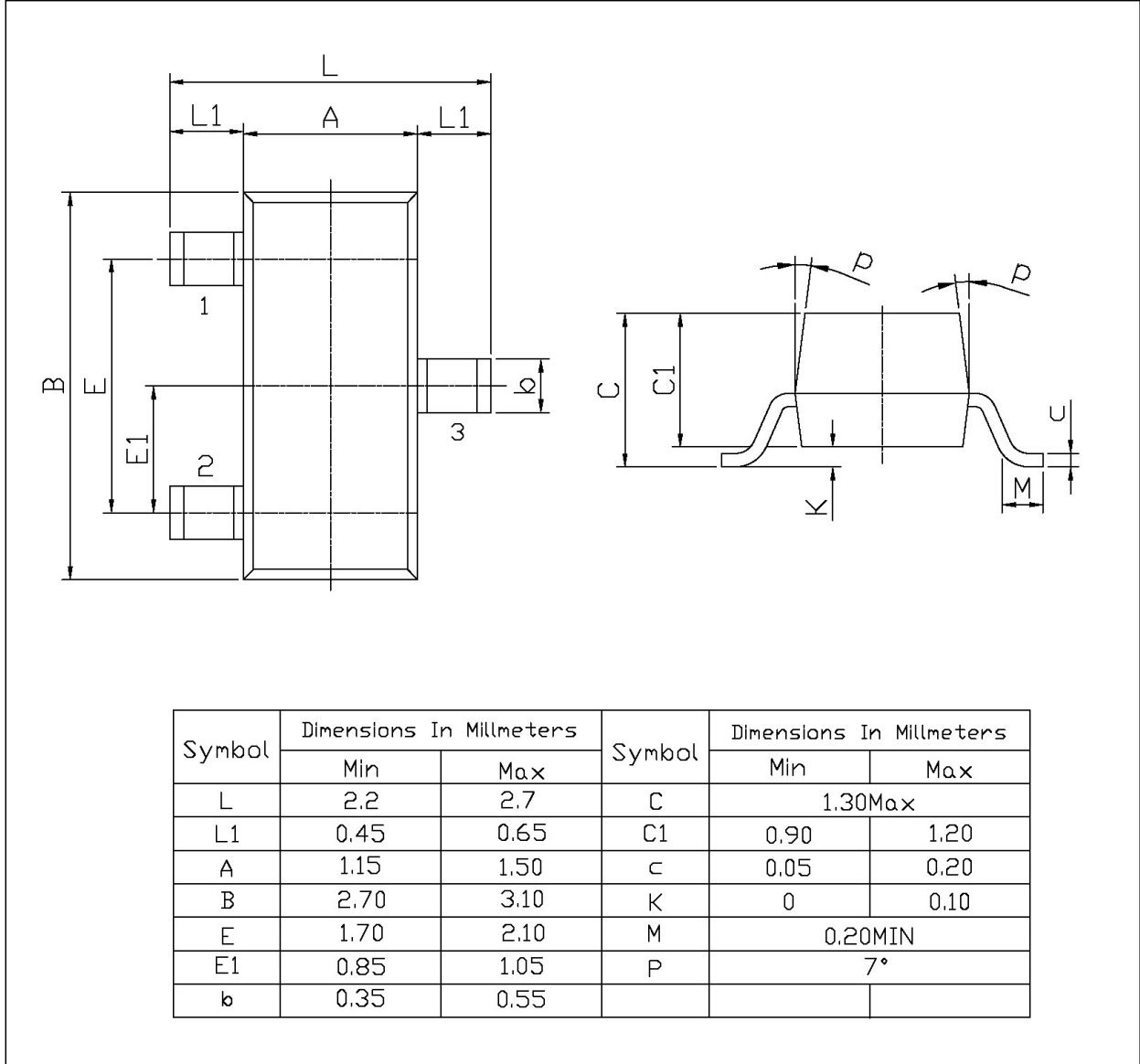
**电参数曲线图 / Electrical Characteristic Curve**



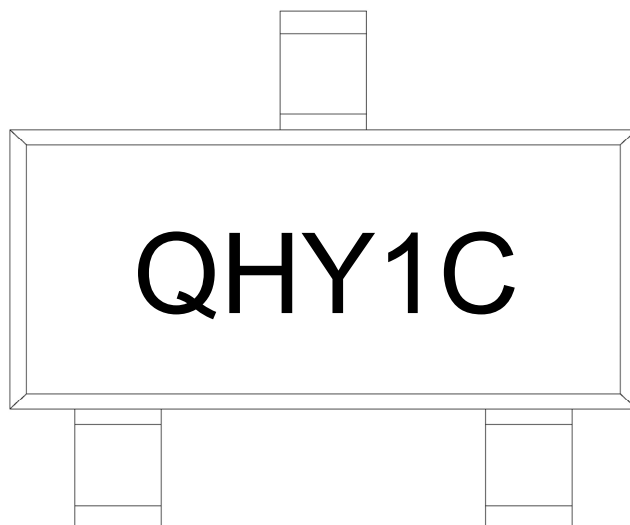
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

Q： 为汽车无卤产品标识

H： 为公司代码

Y1： 为型号代码

C： 为 h<sub>FE</sub> 分档代码

Note:

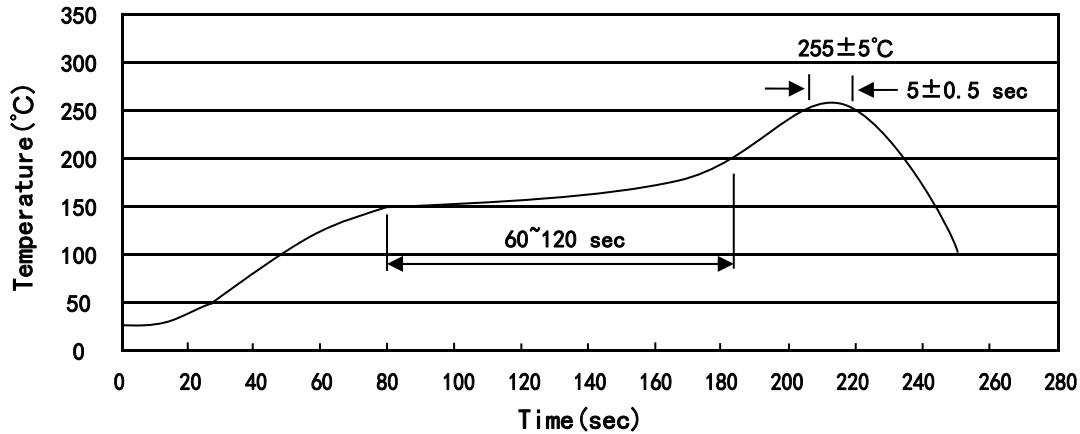
Q: Automobile halogen-free product Code

H: Company Code.

Y1: Product Type .

C: h<sub>FE</sub> Classifications Symbol Code.

**回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)**



说明：

- 1、预热温度 150 ~ 200°C，时间 60 ~ 120sec;
- 2、峰值温度 255±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:150~200°C, Time:60~120sec.
- 2.Peak Temp.:255±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

**耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions**

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

**包装规格 / Packaging SPEC.**

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

**使用说明 / Notices**

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