

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。

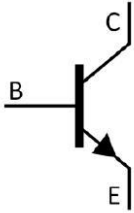
Complementary pair with BR8550MQ, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

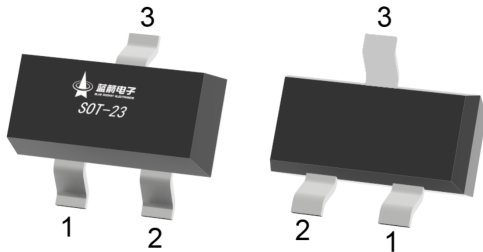
用于功率放大电路，满足汽车应用的严格要求。

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_{FE} Classifications & Marking

h _{FE} Classifications Symbol	B	C	D
h _{FE} Range	85~160	120~200	160~300
Marking	QHY1B	QHY1C	QHY1D

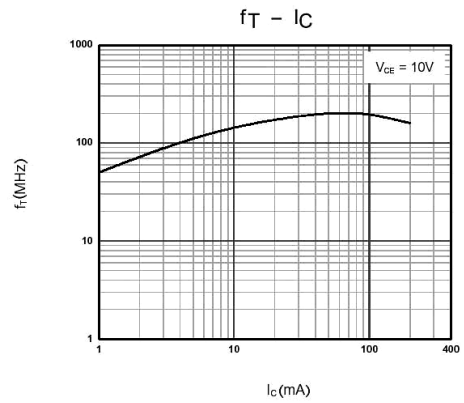
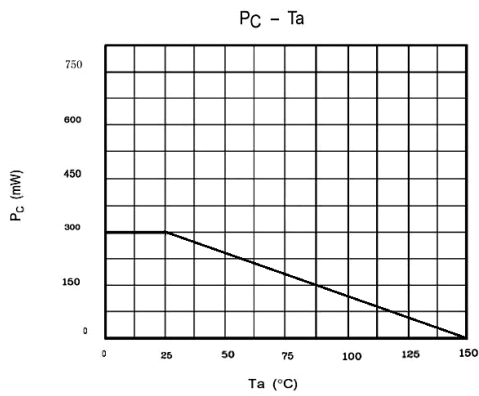
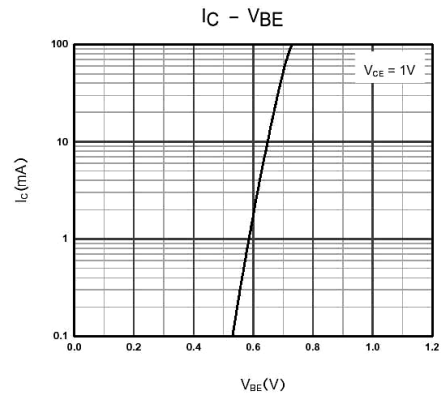
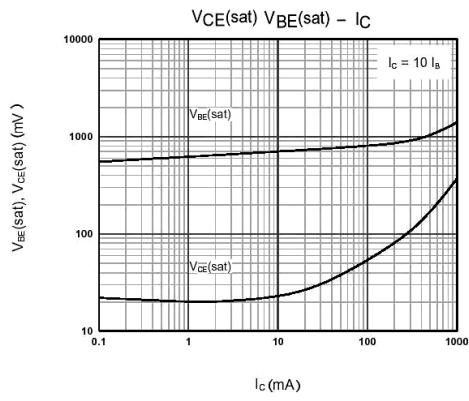
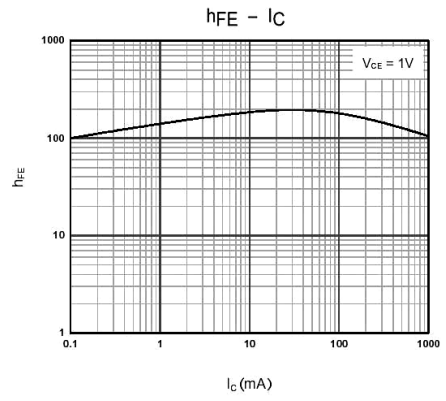
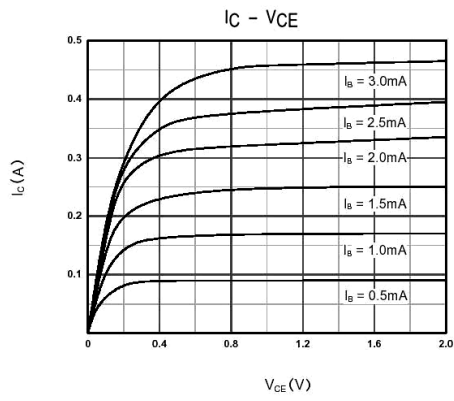
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V _{CBO}	40	V
Collector to Emitter Voltage	V _{CEO}	25	V
Emitter to Base Voltage	V _{EBO}	6	V
Collector Current - Continuous	I _C	1.5	A
Base Current	I _B	0.5	A
Collector Power Dissipation	P _C	300	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-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 _{CBO}	I _C =0.1mA I _E =0	40			V
Collector to Emitter Breakdown Voltage	V _{CEO}	I _C =2.0mA I _B =0	25			V
Emitter to Base Breakdown Voltage	V _{EBO}	I _C =0.1mA I _C =0	6.0			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =35V I _E =0			0.1	μA
Emitter Cut-Off Current	I _{EBO}	V _{EB} =6.0V I _C =0			0.1	μA
DC Current Gain	h _{FE(1)}	V _{CE} =1.0V I _C =100mA	85		300	
	h _{FE(2)}	V _{CE} =1.0V I _C =800mA	40			
	h _{FE(3)}	V _{CE} =1.0V I _C =5.0mA	45			
Collector to Emitter Saturation Voltage	V _{CE(sat)}	I _C =800mA I _B =80mA		0.28	0.5	V
Base to Emitter Voltage	V _{BE}	V _{CE} =1.0V I _C =10mA		0.66	1.0	V
Base to Emitter Saturation Voltage	V _{BE(sat)}	I _C =800mA I _B =80mA		0.98	1.2	V
Transition Frequency	f _T	I _C =50mA V _{CE} =10V	100	190		MHz
Collector output capacitance	C _{ob}	V _{CB} =10V I _E =0 f=1.0MHz		9.0		pF

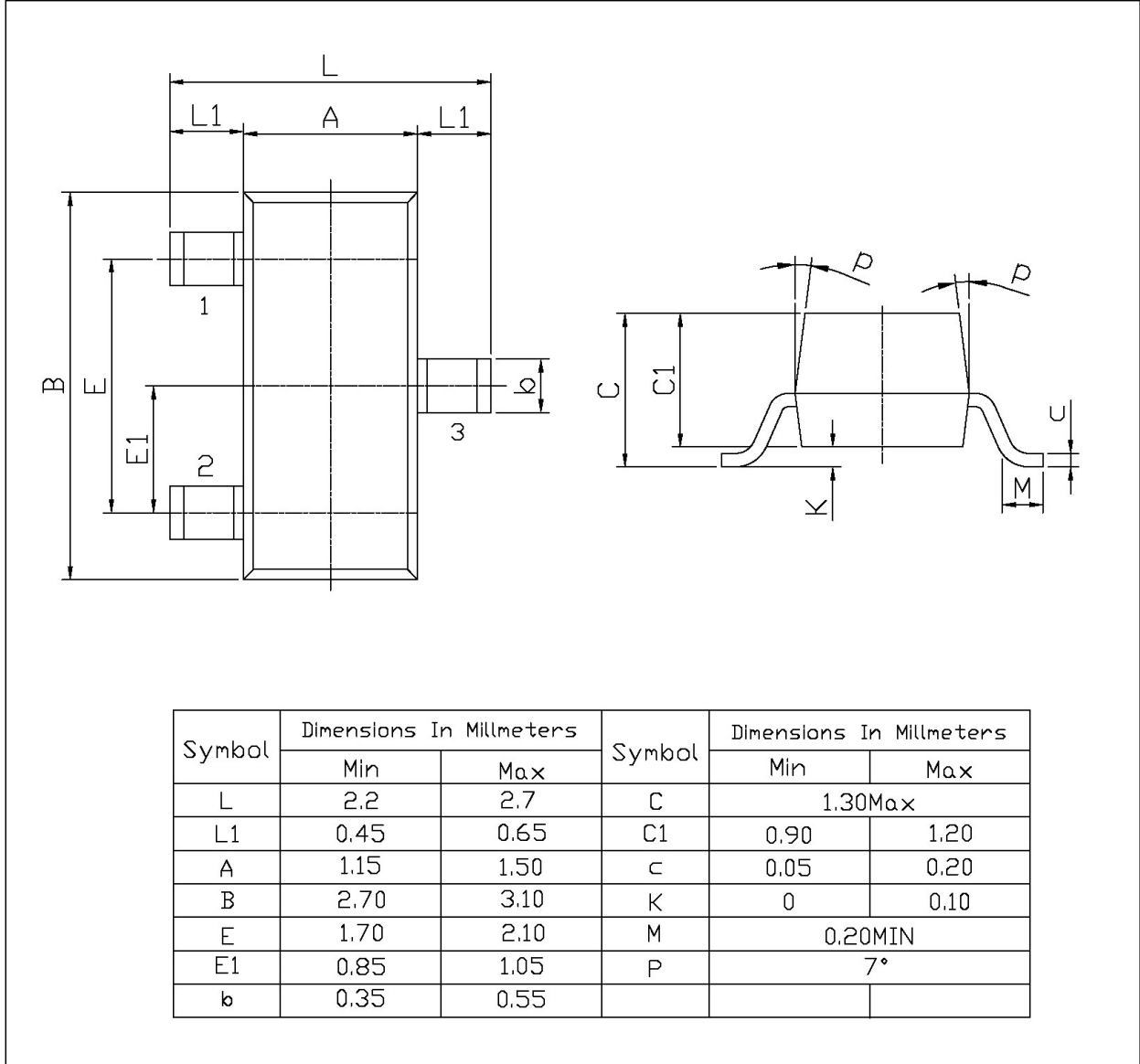
电参数曲线图 / Electrical Characteristic Curve



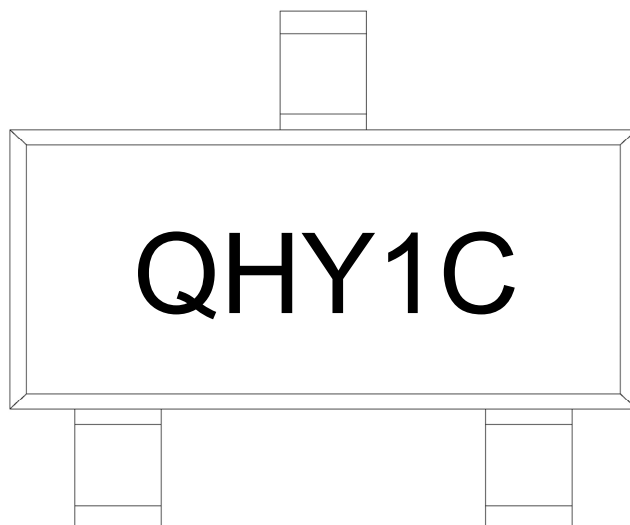
外形尺寸图 / Package Dimensions

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_{FE} 分档代码

Note:

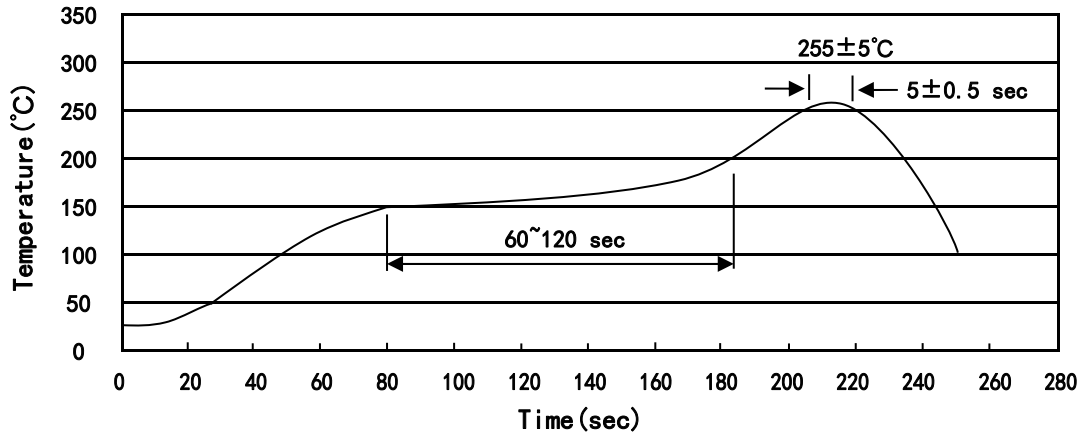
Q: Automobile halogen-free product Code

H: Company Code.

Y1: Product Type .

C: h_{FE} 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 $150 \sim 200^\circ\text{C}$ ，时间 $60 \sim 120\text{sec}$;
- 2、峰值温度 $255 \pm 5^\circ\text{C}$ ，时间持续为 $5 \pm 0.5\text{sec}$;
- 3、焊接制程冷却速度为 $2 \sim 10^\circ\text{C}/\text{sec}$.

Note:

- 1.Preheating: $150 \sim 200^\circ\text{C}$, Time: $60 \sim 120\text{sec}$.
- 2.Peak Temp.: $255 \pm 5^\circ\text{C}$, Duration: $5 \pm 0.5\text{sec}$.
3. Cooling Speed: $2 \sim 10^\circ\text{C}/\text{sec}$.

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

温度： $260 \pm 5^\circ\text{C}$

时间： 10 ± 1 sec.

Temp.: $260 \pm 5^\circ\text{C}$

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 ³)		
	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