

描述 / Descriptions

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

特征 / Features

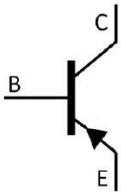
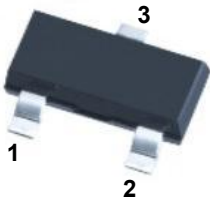
I_C 大，与 BRBC817Q 互补，符合 AEC-Q101 标准高可靠性要求，无卤产品。

High I_C , complementary pair with BRBC817Q, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

用于一般功率放大及开关电路，满足汽车应用的严格要求。

General power amplifier and switching 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	16	25	40
h_{FE} Range	100~250	160~400	250~600
Marking	Q5A	Q5B	Q5C

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}	-50	V
Collector to Emitter Voltage	V_{CEO}	-45	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current - Continuous	I_C	-500	mA
Peak Collector Current - Continuous	I_{CM}	-1.0	A
Power Dissipation	P_C	250	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

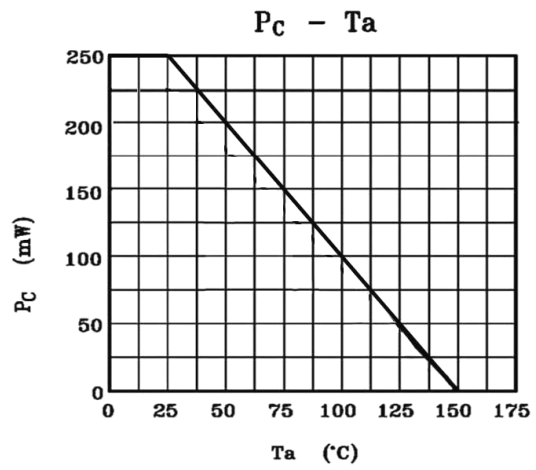
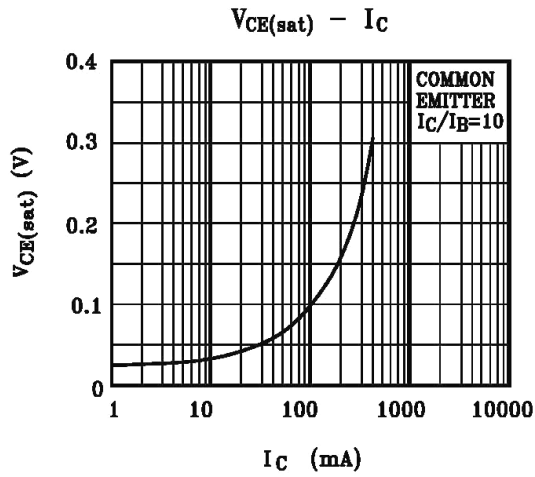
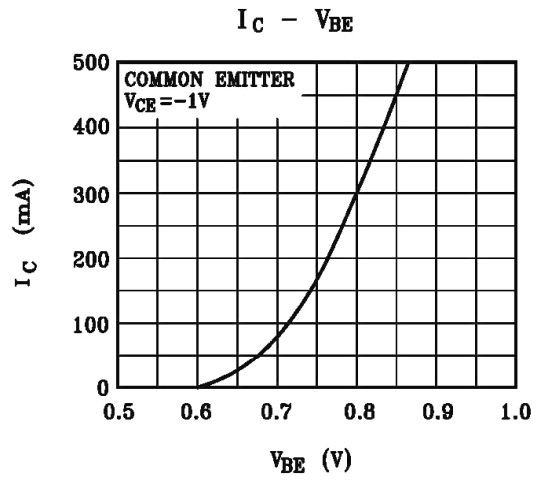
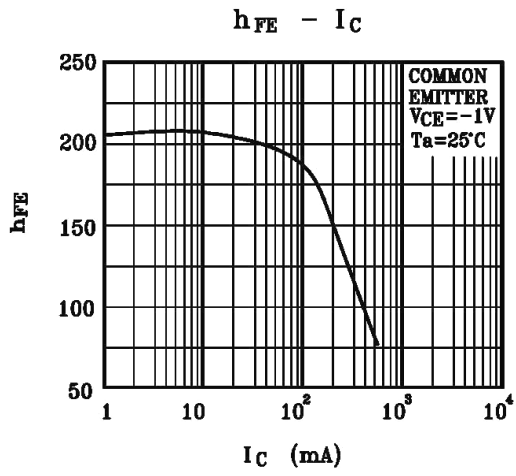
电性能参数 / Electrical Characteristics(Ta=25°C)

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}	$I_C=-10\mu A$ $I_E=0$	-50			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=-10mA^*$ $I_B=0$	-45			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=-10\mu A$ $I_C=0$	-5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-20V$ $I_E=0$			-0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-5.0V$ $I_C=0$			-0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-1.0V$ $I_C=-100mA$	100		600	
	$h_{FE(2)}$	$V_{CE}=-1.0V$ $I_C=-500mA^*$	40			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-500mA$ $I_B=-50mA^*$			-0.7	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=-1.0V$ $I_C=-500mA$			-1.2	V
Transition Frequency	f_T	$V_{CE}=-5V$ $I_C=-10mA$	80			MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-10V$ $f=1.0MHz$ $I_E=0$		9.0		pF

*脉冲测试：脉宽 $\leq 300\mu S$ ，占空比 $\leq 2.0\%$ 。

*pulse test: pulse width $\leq 300\mu S$, duty cycle $\leq 2.0\%$ 。

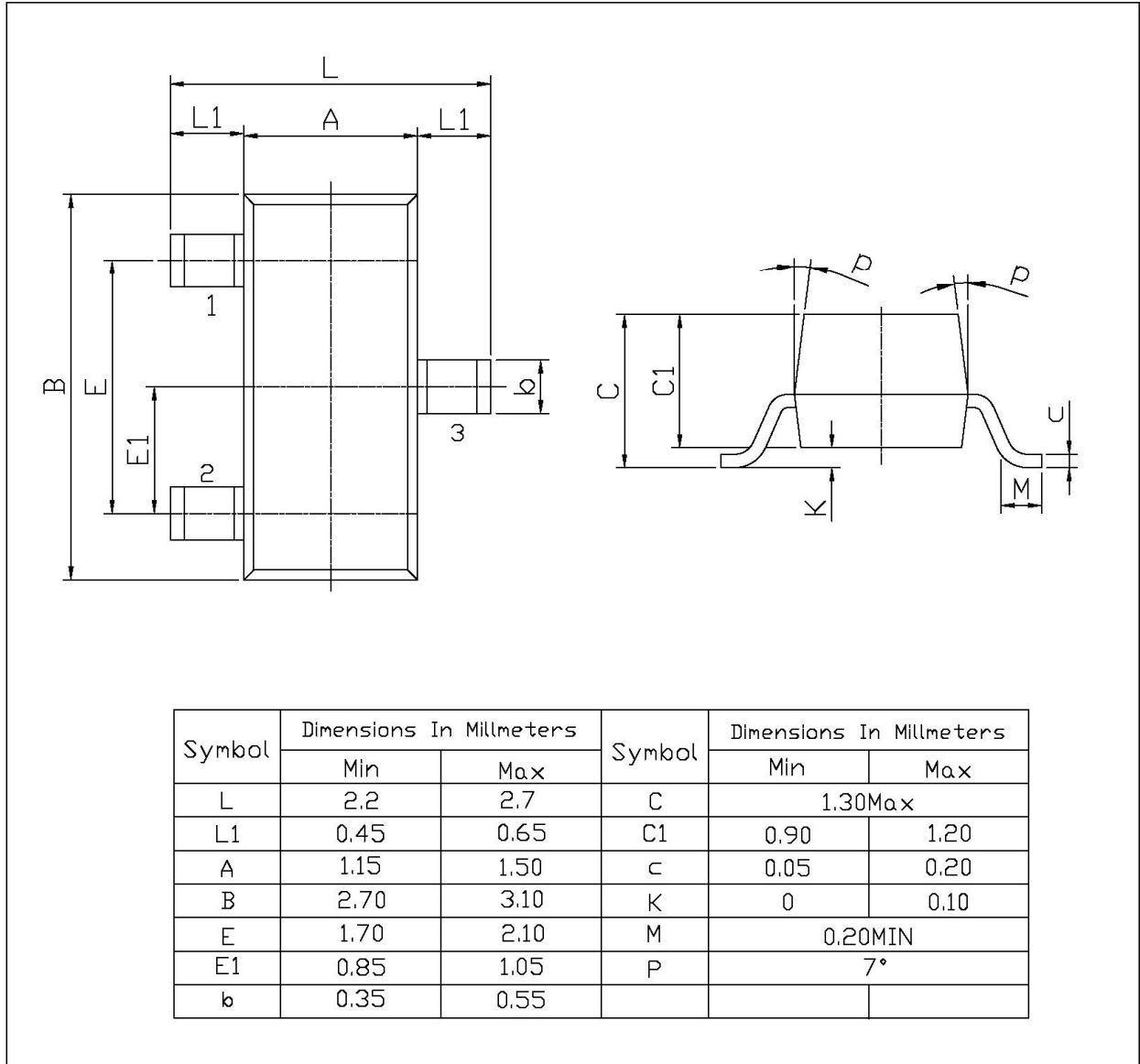
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

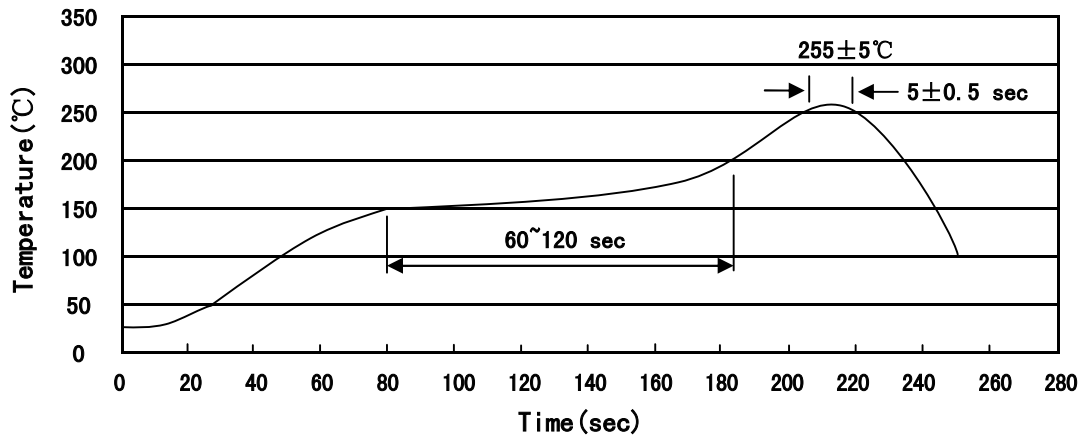
Q： 为汽车无卤产品标识

5A： 为型号代码

Note:

Q: Automobile halogen-free product Code

5A: Product Type 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 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