

BR2SB1198MCQ

Rev.A Apr.-2023

描述 / Descriptions

SOT23-3 塑封封装 PNP 半导体三极管。Silicon PNP transistor in a SOT23-3 Plastic Package.

特征 / Features

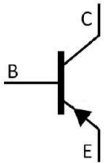
击穿电压高, 饱和压降低, 与 BR2SD1782MCQ 互补, 符合 AEC-Q101 标准高可靠性要求, 无卤产品。
High breakdown, low $V_{CE(sat)}$, complements the BR2SD1782MCQ, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

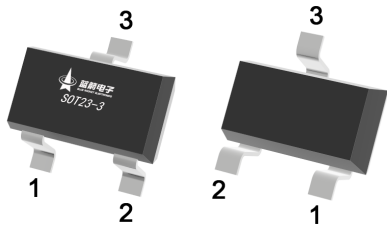
用于一般中功率放大, 满足汽车应用的严格要求。

Medium 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 | Q | R |
| h_{FE} Range | 120~270 | 180~390 |
| Marking | QAKQ | QAKR |

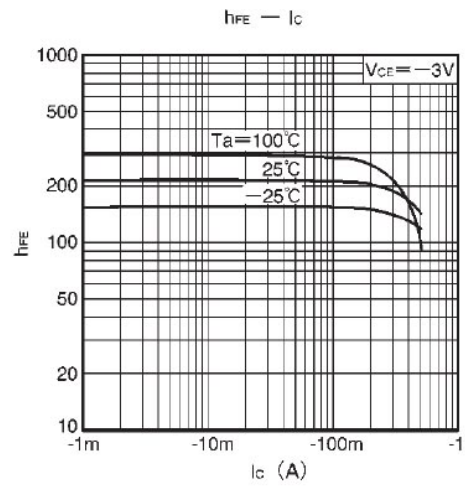
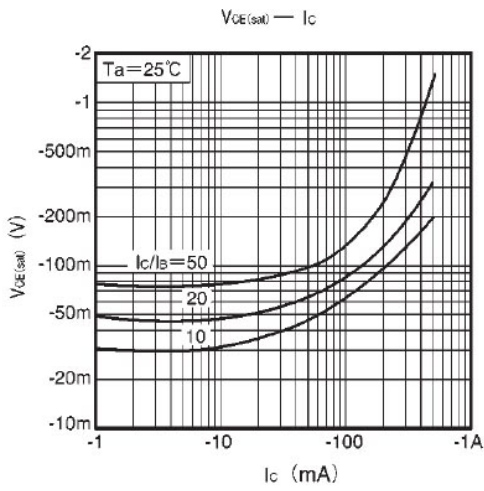
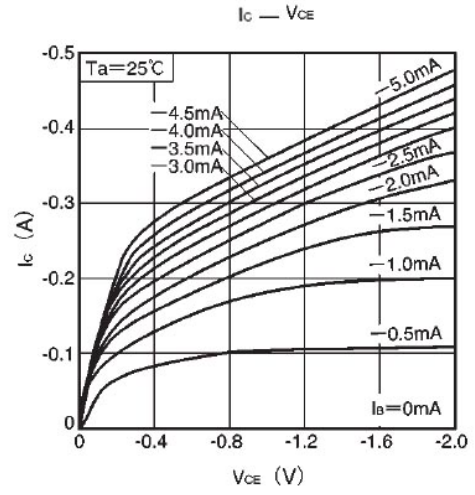
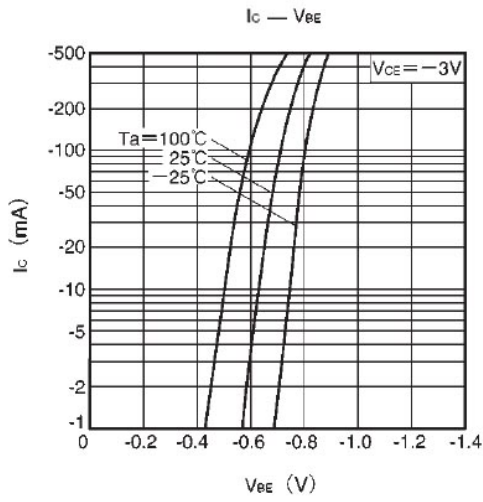
极限参数 / Absolute Maximum Ratings(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 数值 Rating | 单位 Unit |
|--------------------------------|--------------|--------------|------------|
| Collector to Base Voltage | V_{CBO} | -80 | V |
| Collector to Emitter Voltage | V_{CEO} | -80 | V |
| Emitter to Base Voltage | V_{EBO} | -5 | V |
| Collector Current - Continuous | I_C | -500 | mA |
| Collector Power Dissipation | P_C | 200 | mW |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature Range | T_{stg} | -55 ~ 150 | °C |

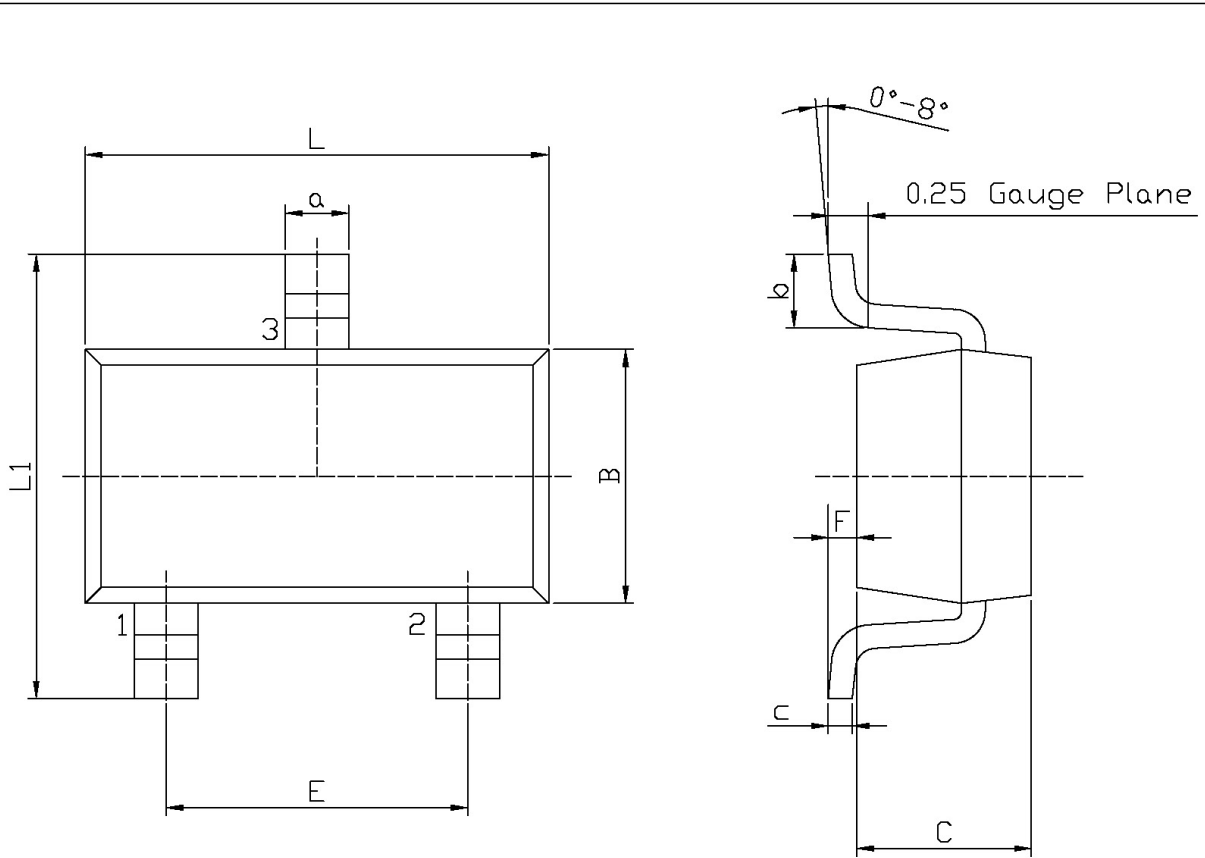
电性能参数 / Electrical Characteristics(Ta=25°C)

| 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} | $I_C = -50\mu A$ | -80 | | | V |
| Collector to Emitter Breakdown Voltage | V_{CEO} | $I_C = -2mA$ | -80 | | | V |
| Emitter to Base Breakdown Voltage | V_{EBO} | $I_E = -50\mu A$ | -5 | | | V |
| Collector Base Cut-Off Current | I_{CBO} | $V_{CB} = -50V$ $I_E = 0$ | | | -0.5 | μA |
| Collector Emitter Cut-Off Current | I_{CEO} | $V_{CE} = -65V$ $I_B = 0$ | | | -5 | μA |
| Emitter Base Cut-Off Current | I_{EBO} | $V_{EB} = -4.0V$ $I_C = 0$ | | | -0.5 | μA |
| DC Current Gain | h_{FE} | $V_{CE} = -3.0V$ $I_C = -100mA$ | 120 | | 390 | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -500mA$ $I_B = -50mA$ | | | -0.5 | V |
| Transition Frequency | f_T | $I_C = -50mA$ $f = 100MHz$ $V_{CE} = -10V$ | | 180 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10V$ $f = 1.0MHz$ $I_E = 0$ | | 11 | | pF |

电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

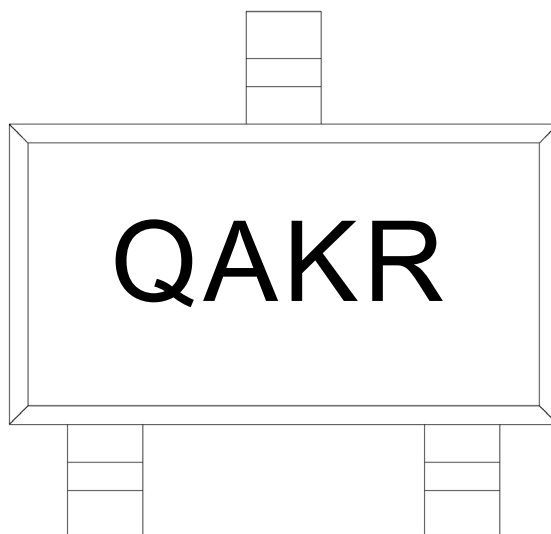


Unit: mm

| Symbol | Dimensions In Millimeters | | Symbol | Dimensions In Millimeters | |
|--------|---------------------------|------|--------|---------------------------|------|
| | Min | Max | | Min | Max |
| L | 2.82 | 3.02 | a | 0.35 | 0.50 |
| B | 1.50 | 1.70 | c | 0.10 | 0.20 |
| C | 0.90 | 1.30 | b | 0.35 | 0.55 |
| L1 | 2.60 | 3.00 | F | 0 | 0.15 |
| E | 1.80 | 2.00 | | | |

SOT23-3

印章说明 / Marking Instructions



说明：

Q： 为汽车无卤产品标识

AK： 为型号代码

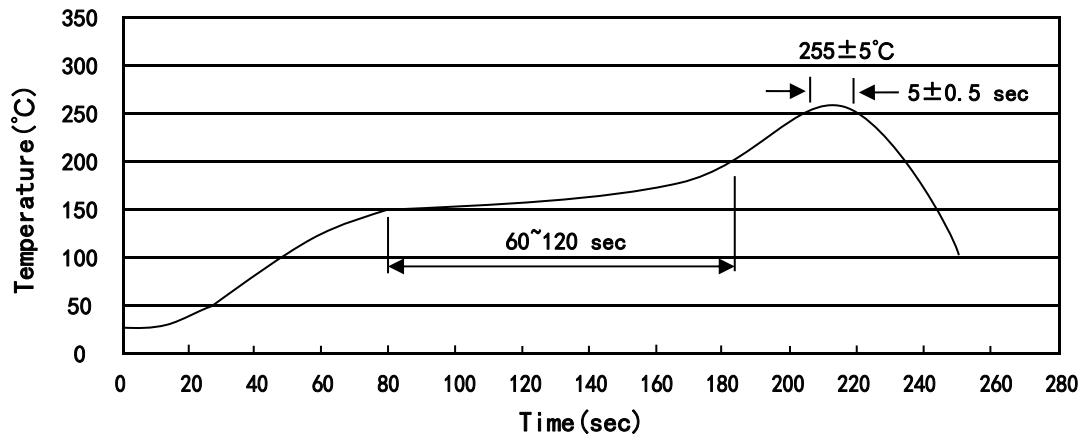
R： 为 hFE 分档代码

Note:

Q: Automobile halogen-free product Code

AK: Product Type Code

R: hFE 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 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 |
| SOT23-3 | 3,000 | 10 | 30,000 | 4 | 120,000 | 7" × 8 | 210×205×205 | 445×230×435 |

使用说明 / Notices