

描述 / Descriptions

SOT-89 塑封封装 PNP 半导体三极管。Silicon PNP transistor in a SOT-89 Plastic Package.

特征 / Features

选用 MBIT 工艺规程，集电极-发射集饱和压降低，开关速度快，小电流电容和宽阔的安全工作区，可与互补 KTD1624。

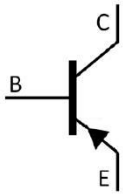
Adoption of MBIT processes, low collector-to-emitter saturation voltage, fast switching Speed, Large current capacity and wide ASO, Complementary to KTD1624.

用途 / Applications

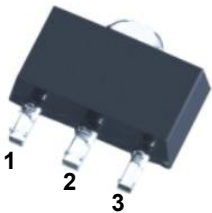
用于电压调整器，转播驱动器，灯管驱动器，电力设备。

Voltage regulators ,relay drivers lamp drivers, electrical equipment.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : Base PIN 2 : Collector PIN 3 : Emitter

印章代码 / Marking

| h_{FE} Classifications Symbol | A | B | C |
|------------------------------------|---------|---------|---------|
| h_{FE} Range | 100~200 | 140~280 | 200~400 |
| Marking | HXA * | HXB * | HXC * |

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

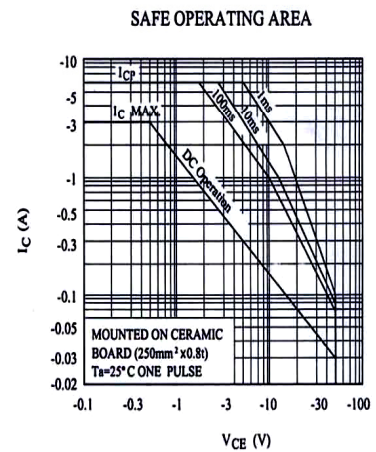
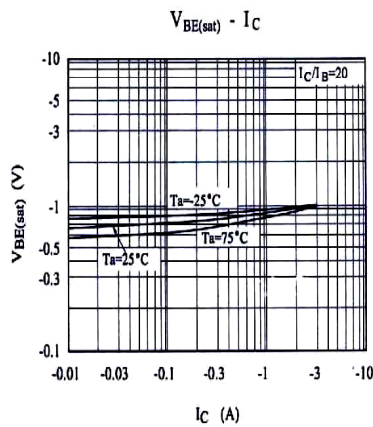
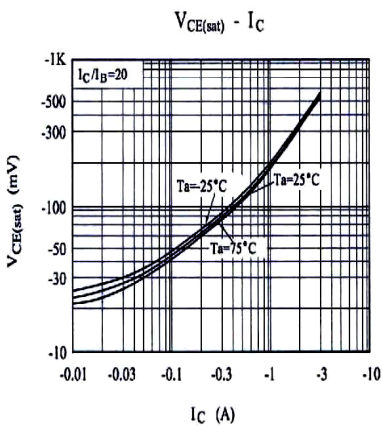
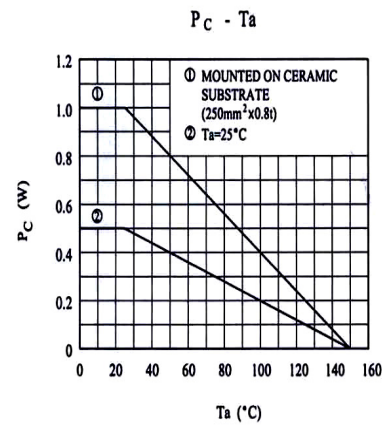
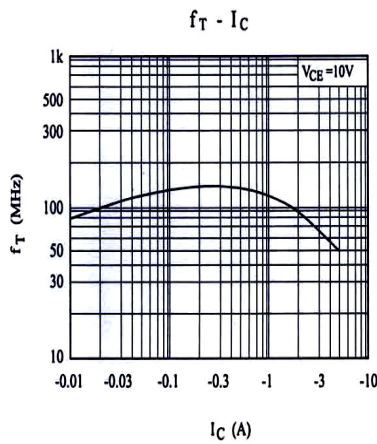
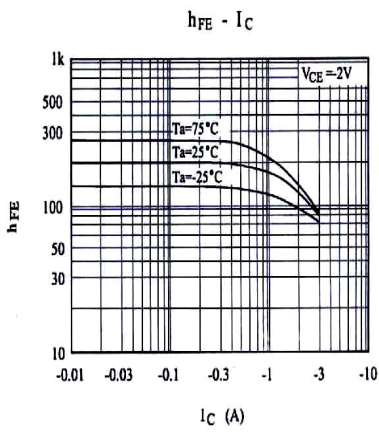
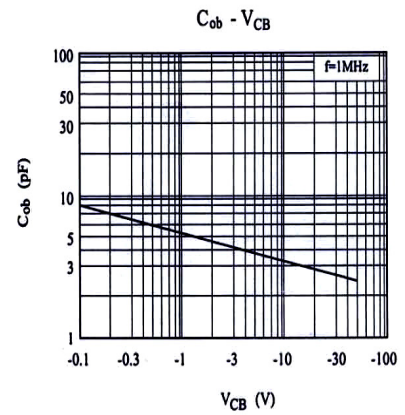
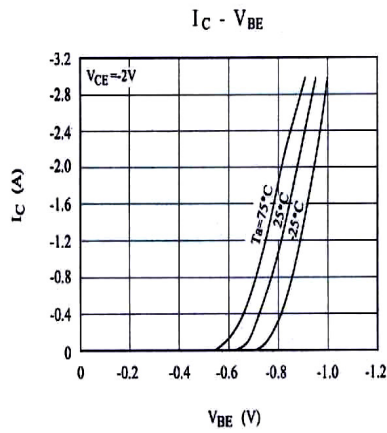
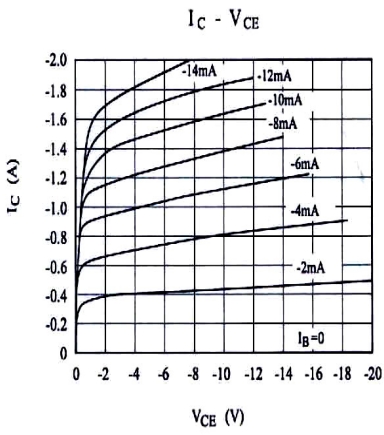
| 参数 Parameter | 符号 Symbol | 数值 Rating | 单位 Unit |
|---------------------------------------|--|--------------|------------|
| Collector to Base Voltage | V _{CBO} | -60 | V |
| Collector to Emitter Voltage | V _{CEO} | -50 | V |
| Emitter to Base Voltage | V _{EBO} | -6.0 | V |
| Collector Current - Continuous | I _C | -3.0 | A |
| Collector Current – Continuous(Pulse) | I _{CP} | -6.0 | A |
| Collector Power Dissipation | P _C | 500 | mW |
| Collector Power Dissipation* | *P _C (T _C =25°C) | 1.0 | W |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature Range | T _{stg} | -55~150 | °C |

*:Package mounted on ceramic substrate(250mm²×0.8t)

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 =-10μA I _E =0 | -60 | | | V |
| Collector to Emitter Breakdown Voltage | V _{CEO} | I _C =-1.0mA I _B =0 | -50 | | | V |
| Emitter to Base Breakdown Voltage | V _{EBO} | I _E =-10μA I _C =0 | -6.0 | | | V |
| Collector Cut-Off Current | I _{CBO} | V _{CB} =-40V I _E =0 | | | -1.0 | μA |
| Emitter Base Cut-Off Current | I _{EBO} | V _{EB} =-4.0V I _C =0 | | | -1.0 | μA |
| DC Current Gain | h _{FE(1)} | V _{CE} =-2.0V I _C =-100mA | 100 | | 400 | |
| | h _{FE(2)} | V _{CE} =-2.0V I _C =-3.0A | 35 | | | |
| Collector to Emitter Saturation Voltage | V _{CE(sat)} | I _C =-2.0A I _B =-100mA | | -0.35 | -0.7 | V |
| Base to Emitter Saturation Voltage | V _{BE(sat)} | I _C =-2.0A I _B =-100mA | | -0.94 | -1.2 | V |
| Transition Frequency | f _T | V _{CE} =-10V I _C =-50mA | | 150 | | MHz |
| Collector Output Capacitance | C _{ob} | V _{CB} =-10V f=1MHz | | 39 | | pF |
| Turn-On Time | t _{on} | -10I _{B1} =10I _{B2} =I _C =1.0A | | 70 | | nS |
| Storage Time | t _{stg} | | | 450 | | nS |
| Fall Time | t _f | | | 35 | | nS |

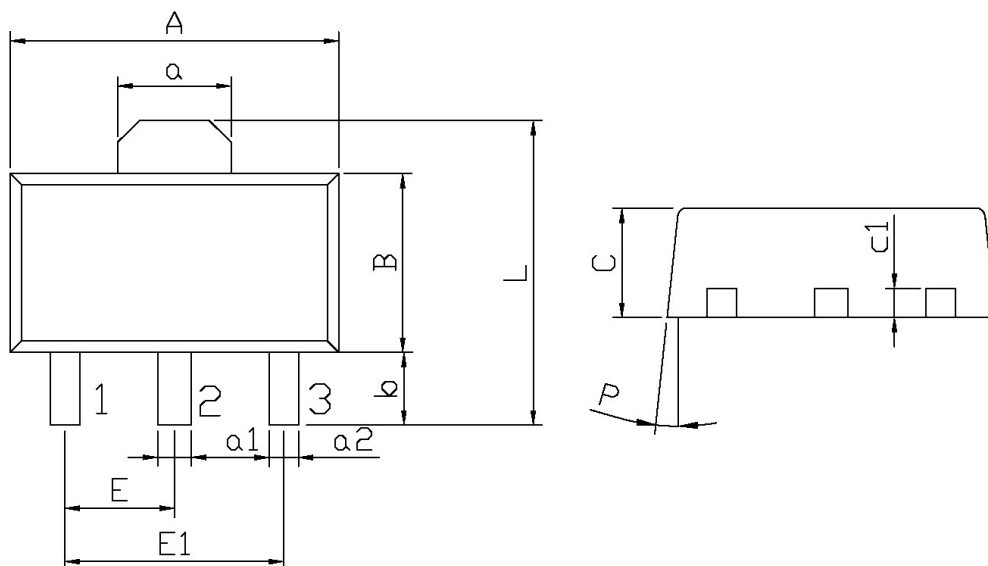
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

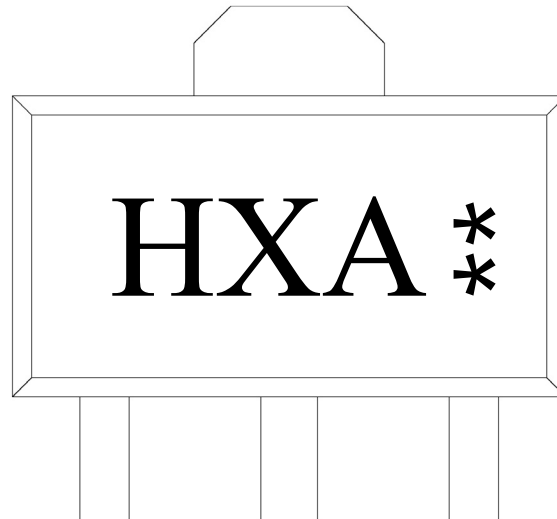
SOT-89

单位: mm



| Symbol | Dimensions In Millimeters | | Symbol | Dimensions In Millimeters | |
|--------|---------------------------|-------|--------|---------------------------|------|
| | Min | Max | | Min | Max |
| A | 4.4 | 4.7 | a1 | 0.36 | 0.56 |
| B | 2.35 | 2.65 | a2 | 0.30 | 0.50 |
| L | 3.878 | 4.478 | C | 1.40 | 1.70 |
| a | 1.45 | 1.65 | c1 | 0.35 | 0.50 |
| E | 1.40 | 1.60 | P | 6° | |
| E1 | 2.80 | 3.20 | | | |
| b | 0.80 | 1.20 | | | |

印章说明 / Marking Instructions



说明：

H： 为公司代码

X： 为型号代码

A： 为 h_{FE} 分档代码

**： 为生产批号代码，随生产批号变化。

Note:

H: Company Code.

X: Product Type.

A: h_{FE} Classifications Symbol

** : Lot No. Code, code change with Lot No.

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 25~150°C，时间 60~90sec;
- 2、峰值温度 245±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:25~150°C, Time:60~90sec.
- 2.Peak Temp.:245±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-89 | 1,000 | 7 | 7,000 | 8 | 56,000 | 7" x12 | 180×120×180 | 385×257×392 |

使用说明 / Notices