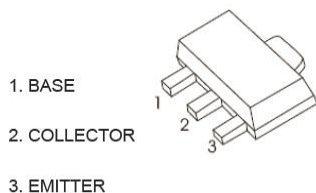


### SOT-89-3L



MARKING: AL

### 特征 Features

- Medium Power General Purposes;
- Driver Stages of Audio Amplifiers.

### 机械数据 Mechanical Data

- SOT-89-3L Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

极限值和温度特性(TA = 25°C 除非另有规定)

**Maximum Ratings & Thermal Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified.)

| 参数 Parameters                               | 符号 Symbol        | 数值 Value | 单位 Unit |
|---------------------------------------------|------------------|----------|---------|
| Collector-Base Voltage                      | V <sub>CBO</sub> | -100     | V       |
| Collector-Emitter Voltage                   | V <sub>CEO</sub> | -80      | V       |
| Emitter -Base Voltage                       | V <sub>EBO</sub> | -5       | V       |
| Collector Current-Continuous                | I <sub>C</sub>   | -1.0     | A       |
| Collector Power Dissipation                 | P <sub>C</sub>   | 500      | mW      |
| Junction Temperature                        | T <sub>j</sub>   | 150      | °C      |
| Storage Temperature                         | T <sub>stg</sub> | -55-+150 | °C      |
| Thermal resistance From junction to ambient | R <sub>θJA</sub> | 250      | °C/W    |

电特性 (TA = 25°C 除非另有规定)

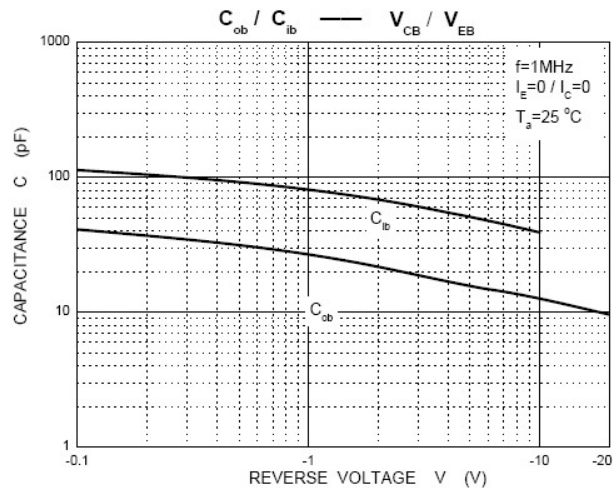
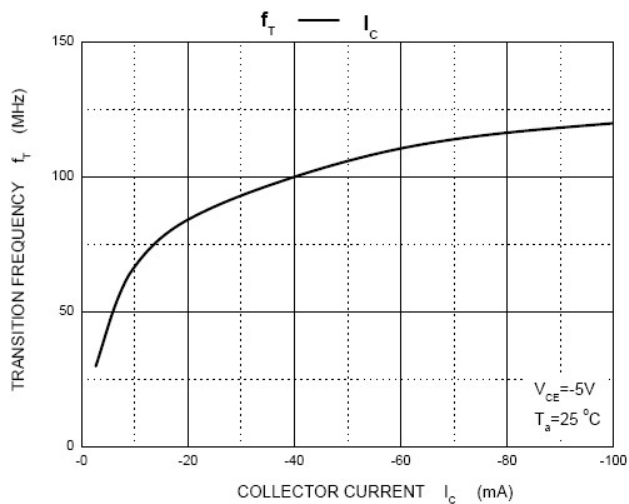
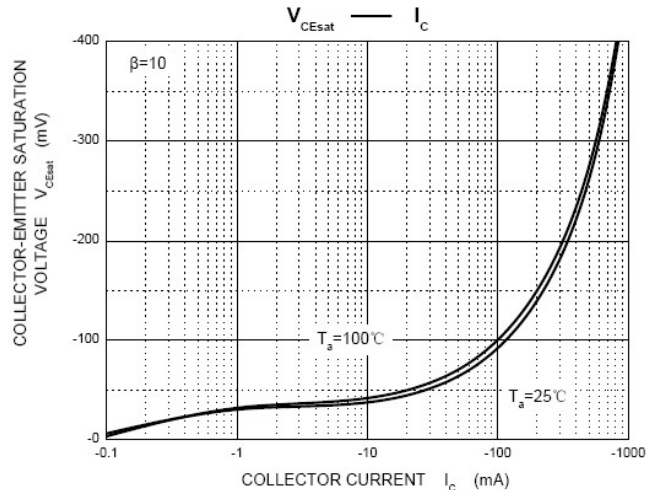
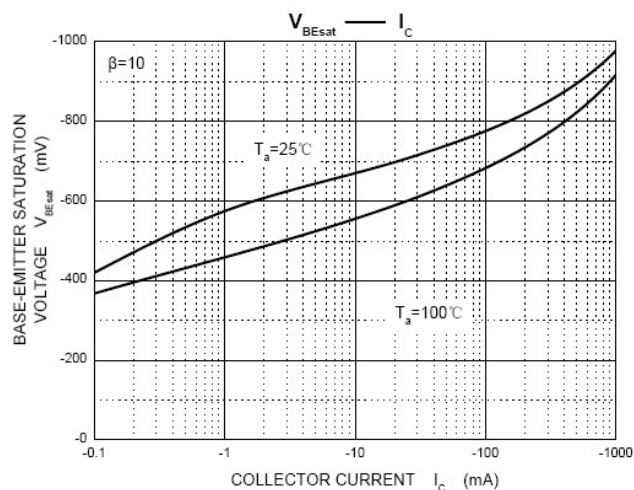
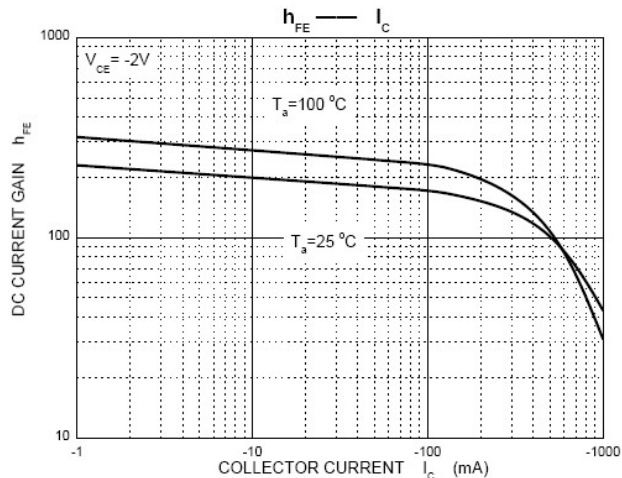
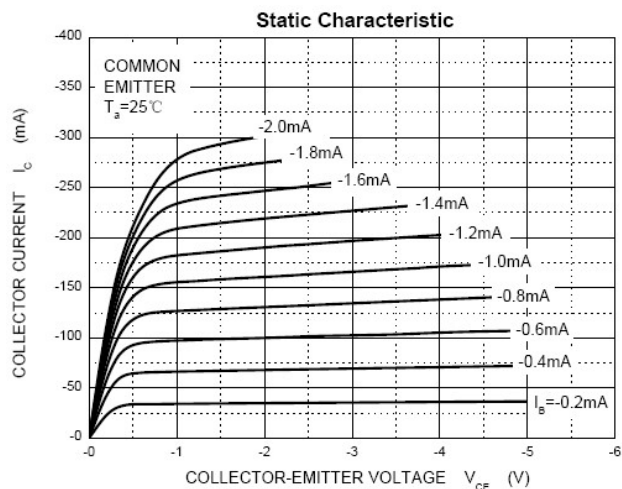
**Electrical Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified).

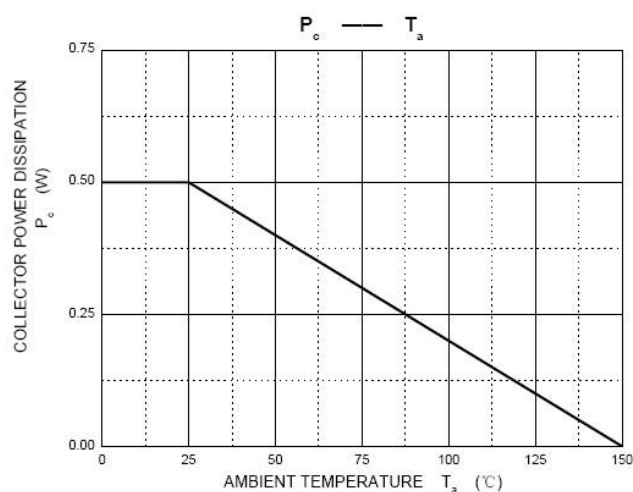
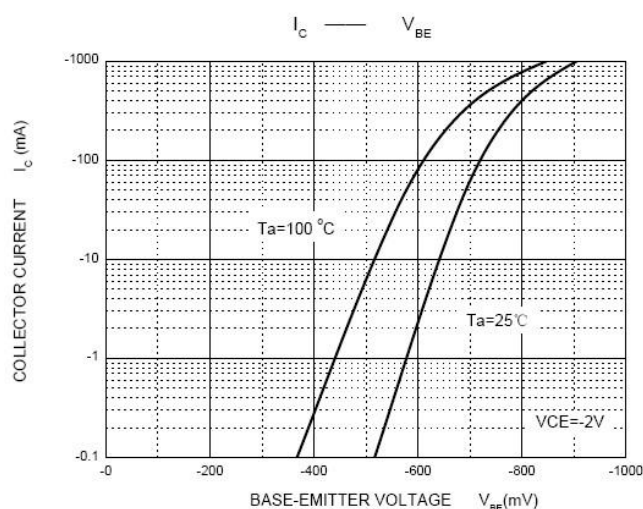
| 参数<br>Parameter                      | 符号<br>Symbols        | 测试条件<br>Test Condition                                | 界限 Limits |     |      | 单位<br>Unit |
|--------------------------------------|----------------------|-------------------------------------------------------|-----------|-----|------|------------|
|                                      |                      |                                                       | Min       | Typ | Max  |            |
| Collector-base breakdown voltage     | V <sub>(BR)CBO</sub> | I <sub>C</sub> =-100uA, I <sub>E</sub> =0             | -100      |     |      | V          |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub> | I <sub>C</sub> =-10mA, I <sub>B</sub> =0              | -80       |     |      | V          |
| Emitter-base breakdown voltage       | V <sub>(BR)EBO</sub> | I <sub>E</sub> =-100uA, I <sub>C</sub> =0             | -5        |     |      | V          |
| Collector cut-off current            | I <sub>CBO</sub>     | V <sub>CB</sub> =-30V, I <sub>E</sub> =0              |           |     | -100 | nA         |
| Emitter cut-off current              | I <sub>EBO</sub>     | V <sub>EB</sub> =-5V, I <sub>C</sub> =0               |           |     | -100 | nA         |
| DC current gain                      | h <sub>FE</sub> (1)  | V <sub>CE</sub> =-2V, I <sub>C</sub> =-5mA            | 63        |     |      |            |
|                                      | h <sub>FE</sub> (2)  | V <sub>CE</sub> =-2V, I <sub>C</sub> =-150mA          | 63        |     | 250  |            |
|                                      | h <sub>FE</sub> (3)  | V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA          | 25        |     |      |            |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA         |           |     | -0.5 | V          |
| Base -emitter voltage                | V <sub>BE</sub>      | V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA          |           |     | -1.0 | V          |
| Transition frequency                 | f <sub>T</sub>       | V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA, f=100MHz |           | 50  |      | MHz        |

### CLASSIFICATION OF h<sub>FE</sub>(2)

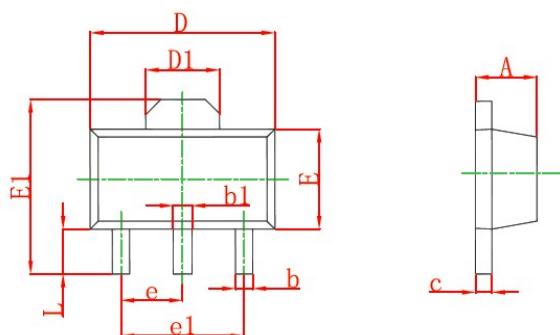
|       |                 |
|-------|-----------------|
| RANK  | BCX53-16,115-CN |
| RANGE | 100-250         |

## Typical characteristics





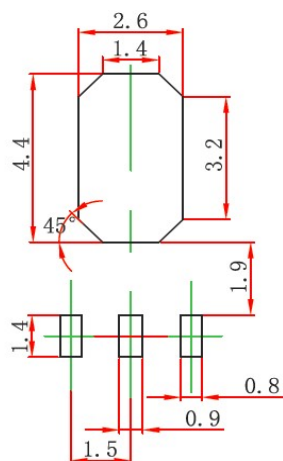
### SOT-89-3L PACKAGE OUTLINE Plastic surface mounted package



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 1.400                     | 1.600 | 0.055                | 0.063 |
| b      | 0.320                     | 0.520 | 0.013                | 0.020 |
| b1     | 0.400                     | 0.580 | 0.016                | 0.023 |
| c      | 0.350                     | 0.440 | 0.014                | 0.017 |
| D      | 4.400                     | 4.600 | 0.173                | 0.181 |
| D1     | 1.550 REF.                |       | 0.061 REF.           |       |
| E      | 2.300                     | 2.600 | 0.091                | 0.102 |
| E1     | 3.940                     | 4.250 | 0.155                | 0.167 |
| e      | 1.500 TYP.                |       | 0.060 TYP.           |       |
| e1     | 3.000 TYP.                |       | 0.118 TYP.           |       |
| L      | 0.900                     | 1.200 | 0.035                | 0.047 |

### 焊盘设计参考Precautions: PCB Design

Recommended land dimensions for SOT-89-3L diode. Electrode patterns for PCBs



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

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