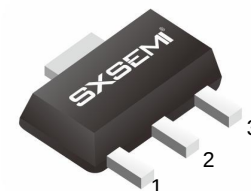


**SOT-89-3L**


1. BASE
2. COLLECTOR
3. EMITTER

MARKING :HO;HY

**FEATURES**

- I High current applications
- I Complementary to KTC4375

**MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$  unless otherwise noted)**

| Symbol          | Parameter                                        | Value      | Unit                 |
|-----------------|--------------------------------------------------|------------|----------------------|
| $V_{CBO}$       | Collector-Base Voltage                           | -30        | V                    |
| $V_{CEO}$       | Collector-Emitter Voltage                        | -30        | V                    |
| $V_{EBO}$       | Emitter-Base Voltage                             | -5         | V                    |
| $I_C$           | Collector Current                                | -1.5       | A                    |
| $P_C$           | Collector Power Dissipation                      | 500        | mW                   |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient      | 250        | $^{\circ}\text{C/W}$ |
| $T_J, T_{stg}$  | Operation Junction and Storage Temperature Range | -55 ~ +150 | $^{\circ}\text{C}$   |

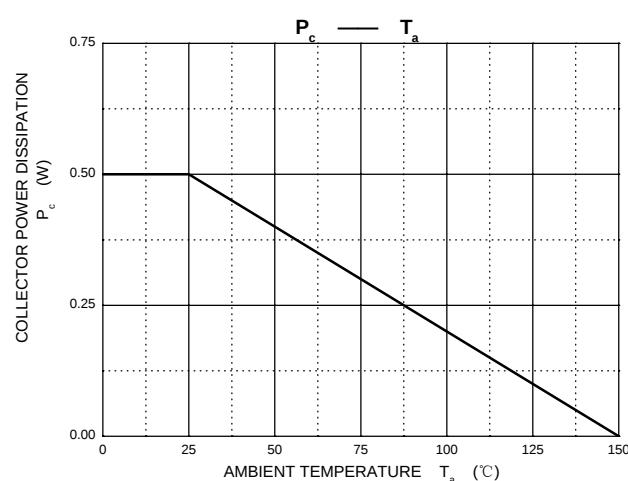
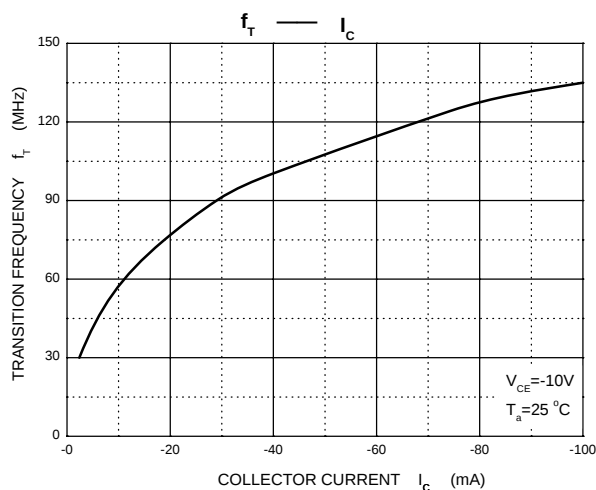
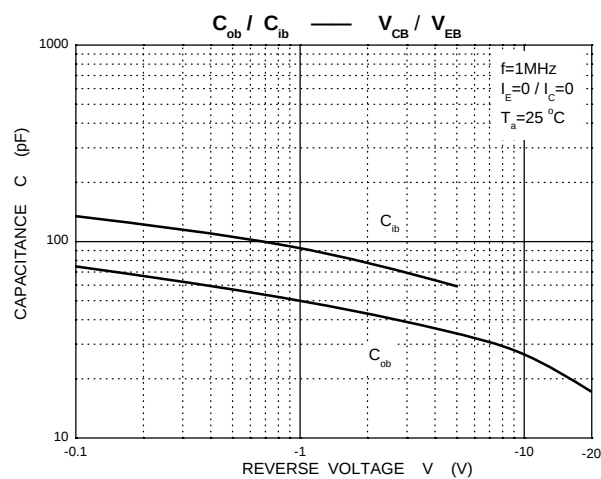
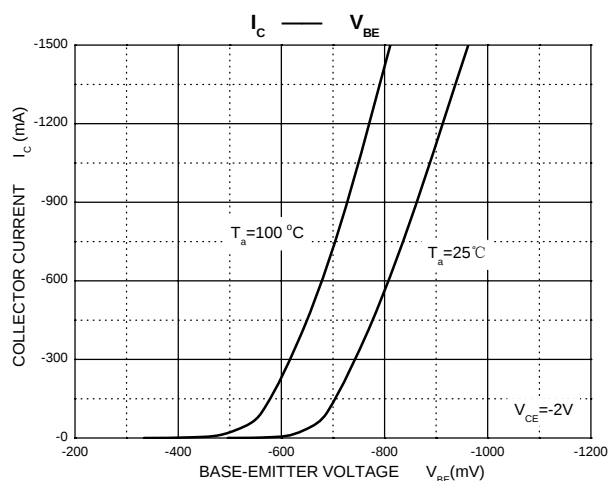
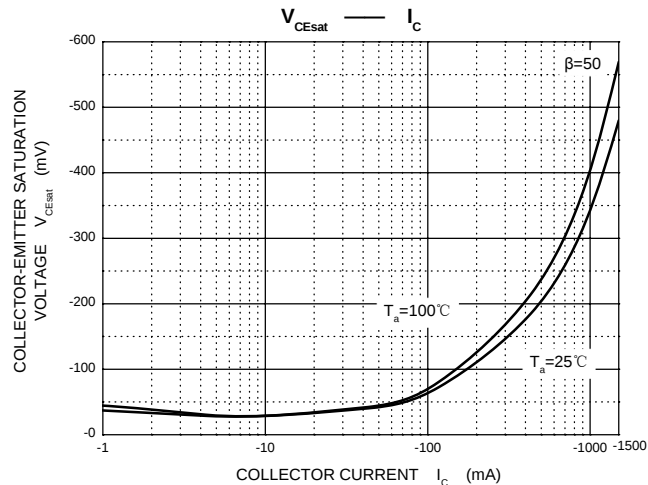
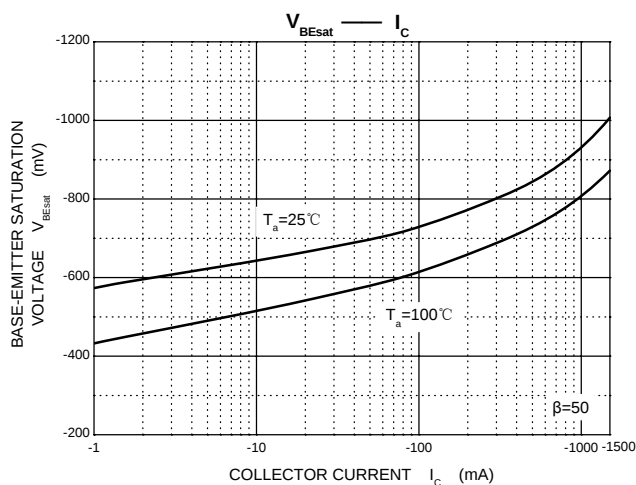
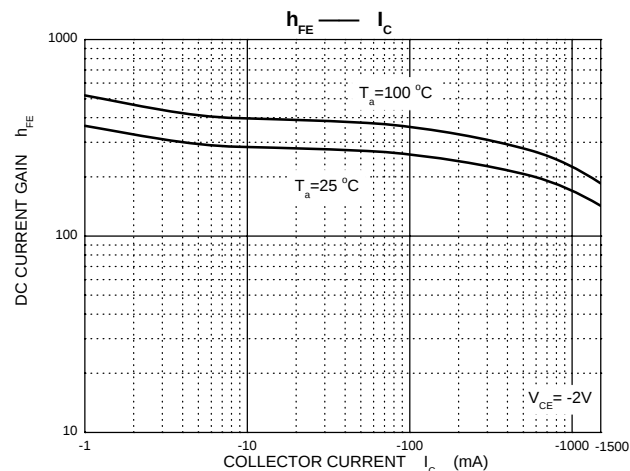
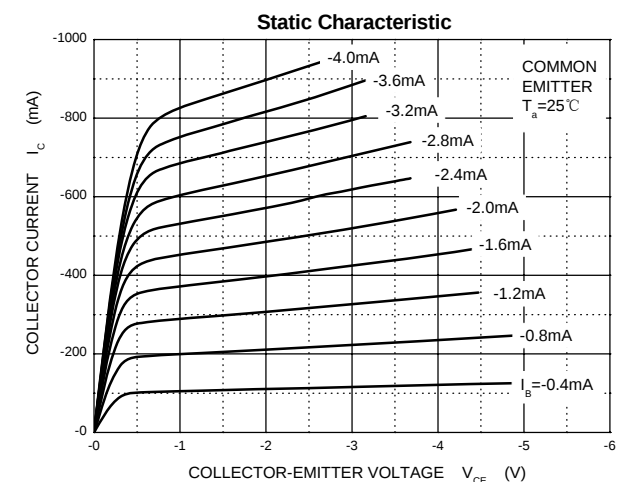
**ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$  unless otherwise specified)**

| Parameter                            | Symbol        | Test conditions                            | Min | Typ | Max  | Unit          |
|--------------------------------------|---------------|--------------------------------------------|-----|-----|------|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=-1\text{mA}, I_E=0$                   | -30 |     |      | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=-10\text{mA}, I_B=0$                  | -30 |     |      | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=-1\text{mA}, I_C=0$                   | -5  |     |      | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=-30\text{V}, I_E=0$                |     |     | -0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=-5\text{V}, I_C=0$                 |     |     | -0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}$      | $V_{CE}=-2\text{V}, I_C=-0.5\text{A}$      | 100 |     | 320  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-1.5\text{A}, I_B=-30\text{mA}$       |     |     | -2   | V             |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE}=-2\text{V}, I_C=-0.5\text{A}$      |     |     | -1   | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=-2\text{V}, I_C=-500\text{mA}$     |     | 120 |      | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$ |     |     | 50   | MHz           |

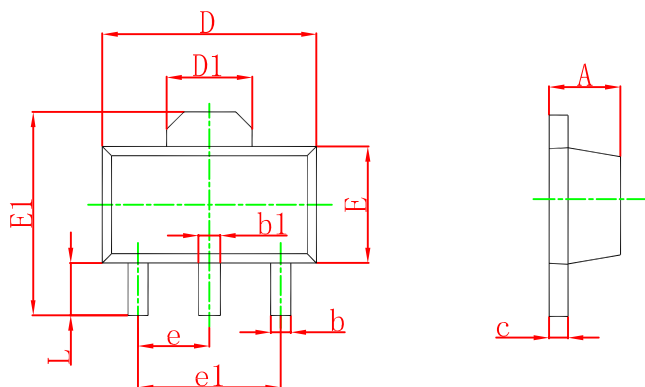
**CLASSIFICATION OF  $h_{FE}$** 

|       |         |         |
|-------|---------|---------|
| Rank  | O       | Y       |
| Range | 100-200 | 160-320 |

# Typical Characteristics

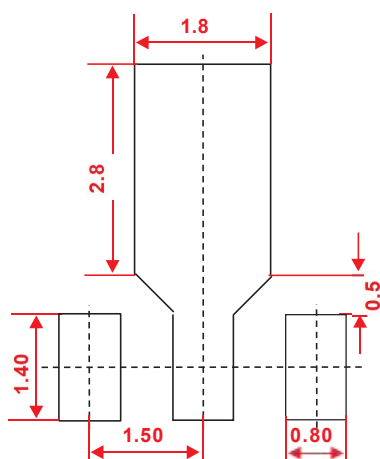


## SOT-89-3L Package Outline Dimensions



| 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 |

## SOT-89-3L Suggested Pad Layout



### Note:

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