



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

SOT-89-3L Plastic-Encapsulate Transistors

2SB1386 TRANSISTOR (PNP)

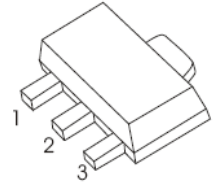
FEATURES

- Low collector saturation voltage
- Excellent current-to-gain characteristics

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

| Symbol | Parameter | Value | Unit |
|------------|------------------------------|---------|------------------|
| V_{CB0} | Collector-Base Voltage | -30 | V |
| V_{CE0} | Collector-Emitter Voltage | -20 | V |
| V_{EB0} | Emitter-Base Voltage | -6 | V |
| I_C | Continuous Collector Current | -5 | A |
| I_{CP}^* | Pulsed Collector Current | -10 | A |
| P_C | Collector Power Dissipation | 0.5 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ\text{C}$ |

SOT-89-3L



1. BASE

2. COLLECTOR

3. EMITTER

*Single pulse, $P_w=10\text{ms}$

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

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|-----|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=-50\mu\text{A}, I_E=0$ | -30 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=-1\text{mA}, I_B=0$ | -20 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=-50\mu\text{A}, I_C=0$ | -6 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=-20\text{V}, I_E=0$ | | | -0.5 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=-5\text{V}, I_C=0$ | | | -0.5 | μA |
| DC current gain | h_{FE} | $V_{CE}=-2\text{V}, I_C=-500\text{mA}$ | 82 | | 390 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-4\text{A}, I_B=-100\text{mA}$ | | | -1 | V |
| Transition frequency | f_T | $V_{CE}=-6\text{V}, I_C=-50\text{mA}, f=30\text{MHz}$ | | 120 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=-20\text{V}, I_E=0, f=1\text{MHz}$ | | 60 | | pF |

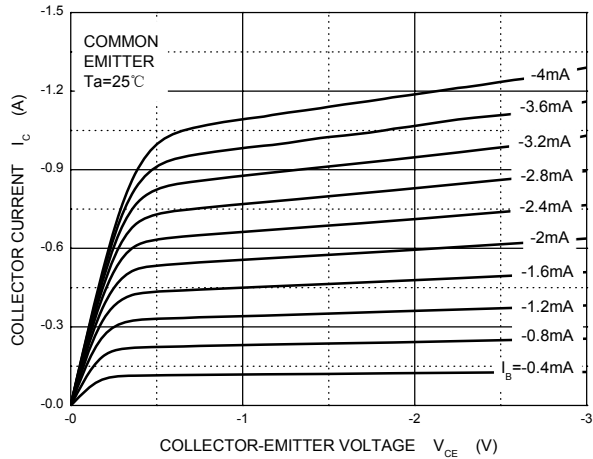
CLASSIFICATION OF h_{FE}

| Rank | P | Q | R |
|---------|--------|---------|---------|
| Range | 82-180 | 120-270 | 180-390 |
| Marking | BHP | BHQ | BHR |

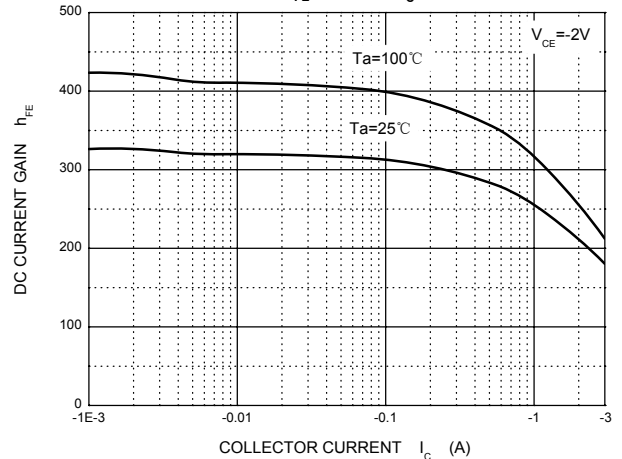
Typical Characteristics

2SB1386

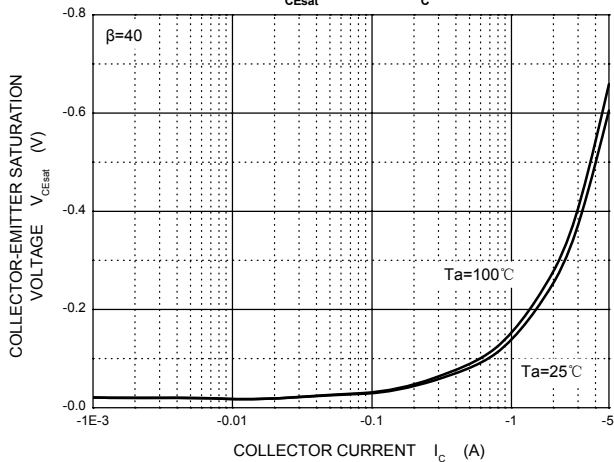
Static Characteristic



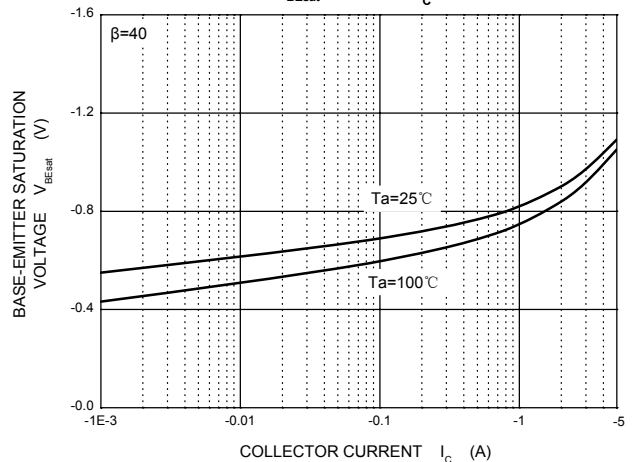
h_{FE} — I_c



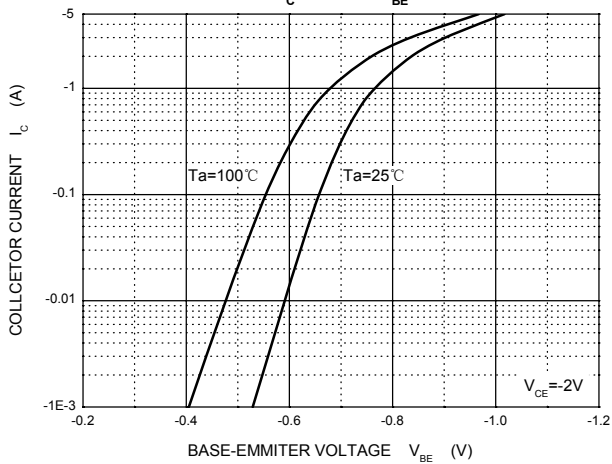
V_{CEsat} — I_c



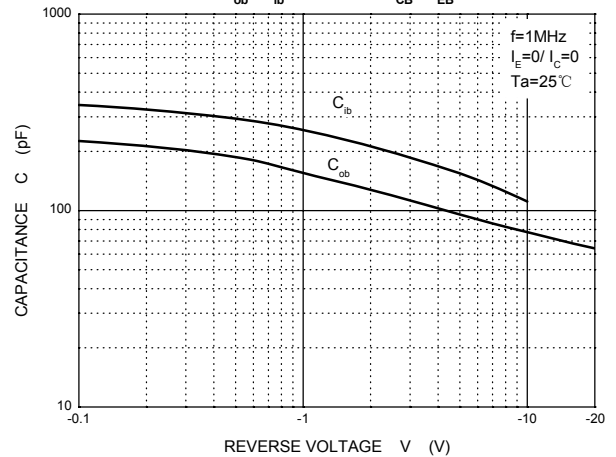
V_{BEsat} — I_c



I_c — V_{BE}



C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_c — T_a

