

## Plastic-Encapsulate Transistors

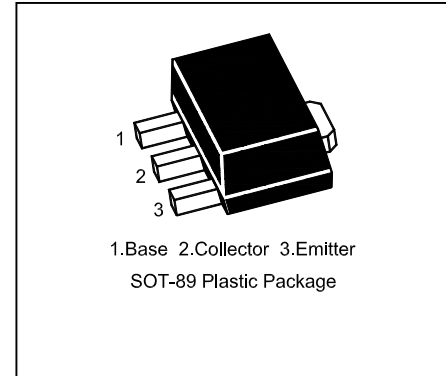
TRANSISTOR (NPN)

### FEATURES

- Small Flat Package
- High DC Current Gain
- Low  $V_{CE(sat)}$
- Large Current Capacity

### APPLICATIONS

- LF Amplifiers, Various Drivers, Muting Circuit



MARKING:CF

### 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                   | 25       | V                           |
| $V_{EBO}$       | Emitter-Base Voltage                        | 15       | V                           |
| $I_C$           | Collector Current                           | 1.2      | A                           |
| $P_C$           | Collector Power Dissipation                 | 500      | mW                          |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 250      | $^{\circ}\text{C}/\text{W}$ |
| $T_j$           | Junction Temperature                        | 150      | $^{\circ}\text{C}$          |
| $T_{stg}$       | Storage Temperature                         | -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     | $V_{(BR)CBO}$ | $I_C=10\mu\text{A}, I_E=0$                | 30  |     |      | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=1\text{mA}, I_B=0$                   | 25  |     |      | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=10\mu\text{A}, I_C=0$                | 15  |     |      | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=20\text{V}, I_E=0$                |     |     | 0.1  | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=10\text{V}, I_C=0$                |     |     | 0.1  | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=5\text{V}, I_C=500\text{mA}$      | 800 |     | 3200 |               |
|                                      | $h_{FE(2)}$   | $V_{CE}=5\text{V}, I_C=10\text{mA}$       | 600 |     |      |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=500\text{mA}, I_B=10\text{mA}$       |     |     | 0.5  | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=500\text{mA}, I_B=10\text{mA}$       |     |     | 1.2  | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=10\text{V}, I_C=50\text{mA}$      |     | 150 |      | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ |     | 17  |      | pF            |



**CHINA BASE**  
INTERNATIONAL

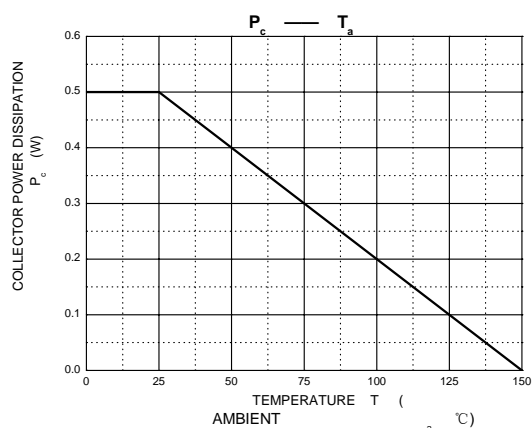
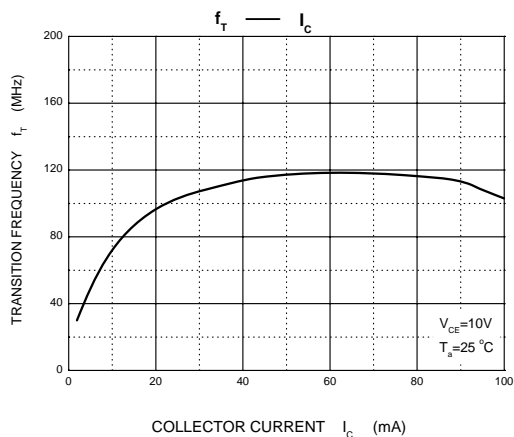
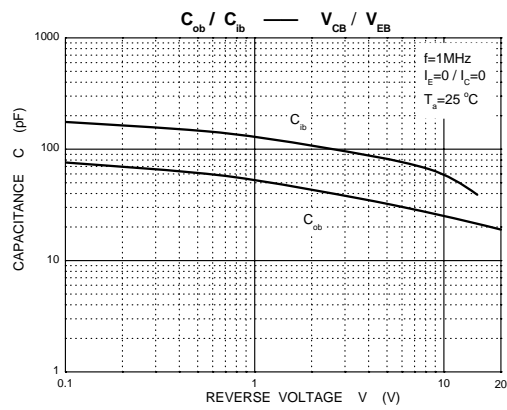
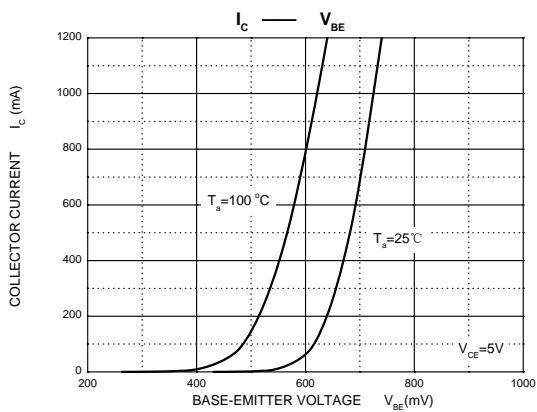
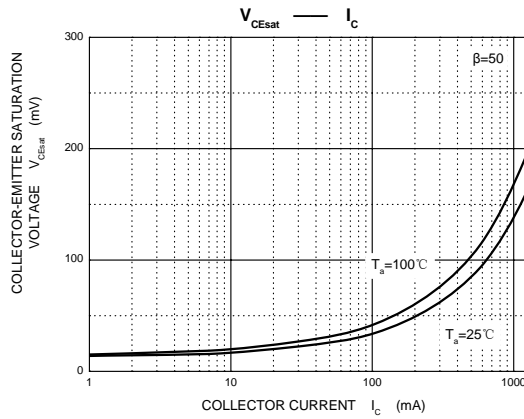
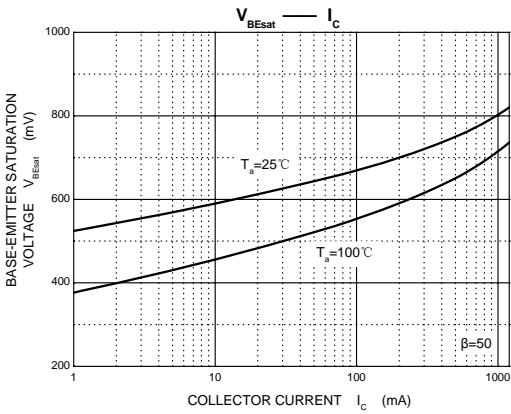
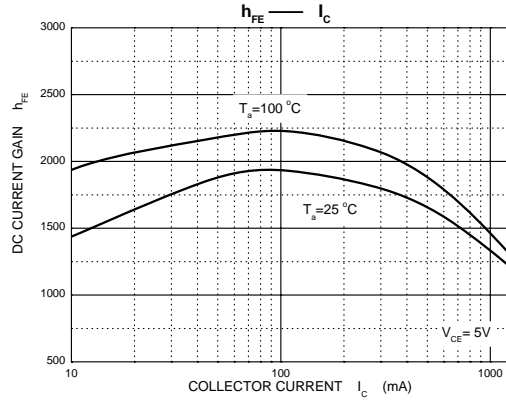
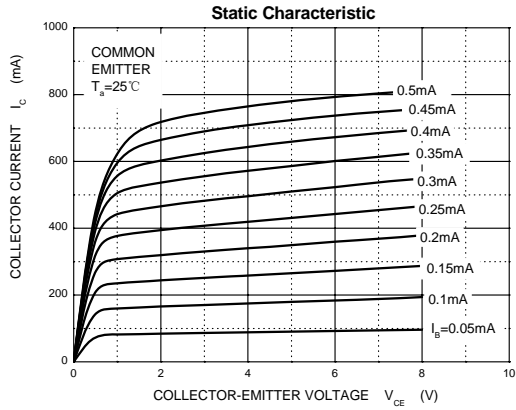
# SOT-89

## 2SC3650U



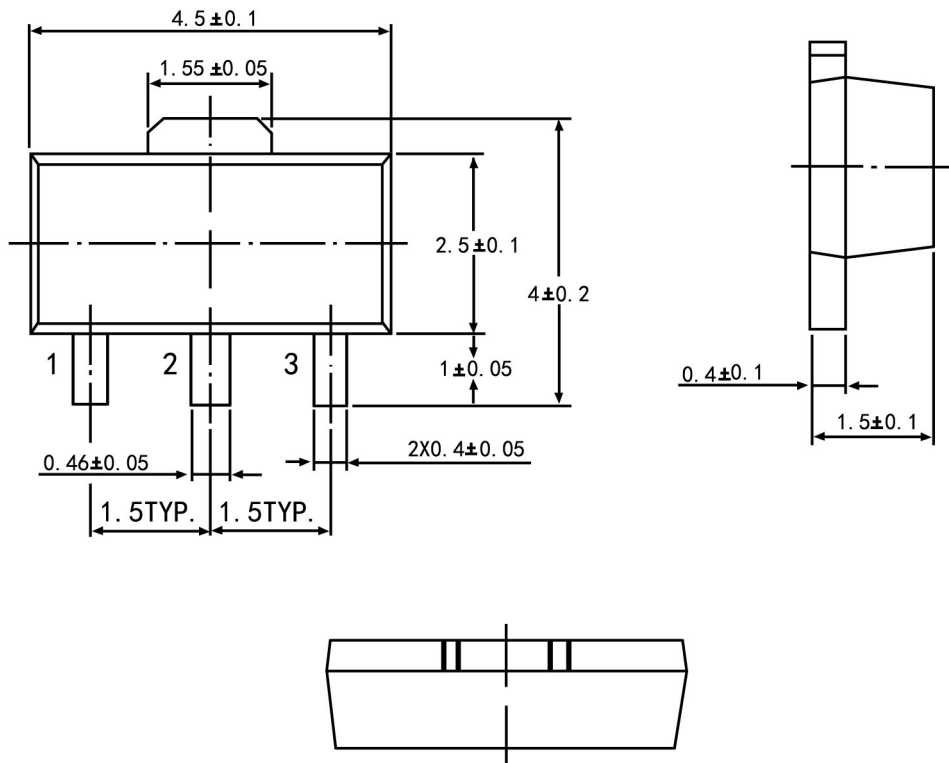
www.china-base.com.hk

### Typical Characteristics





### SOT-89 PACKAGE OUTLINE



| Symbol               | Dimension in Millimeters |      |
|----------------------|--------------------------|------|
|                      | Min                      | Max  |
| A                    | 1.40                     | 1.60 |
| B                    | 0.44                     | 0.62 |
| B1                   | 0.35                     | 0.54 |
| C                    | 0.35                     | 0.44 |
| D                    | 4.40                     | 4.60 |
| D1                   | 1.62                     | 1.83 |
| E                    | 2.29                     | 2.60 |
| e                    | 1.50 Typ                 |      |
| H                    | 3.94                     | 4.25 |
| H1                   | 2.63                     | 2.93 |
| L                    | 0.89                     | 1.20 |
| All Dimensions In mm |                          |      |