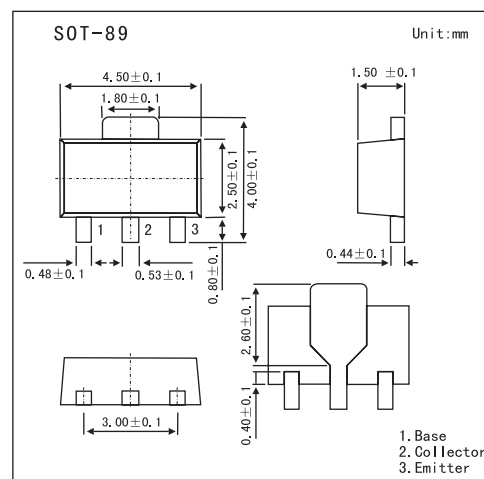


## PNP Silicon Epitaxial Transistor

## 2SB1114

## ■ Features

- World standard miniature package.
- High DC current gain  $h_{FE}=135$  to 600.
- Low  $V_{CE(sat)}$ :  $V_{CE(sat)}=-0.3V$  at 1.5A

■ Absolute Maximum Ratings  $T_a = 25^\circ C$ 

| Parameter                    | Symbol    | Rating      | Unit       |
|------------------------------|-----------|-------------|------------|
| Collector to base voltage    | $V_{CB0}$ | -20         | V          |
| Collector to emitter voltage | $V_{CEO}$ | -20         | V          |
| Emitter to base voltage      | $V_{EBO}$ | -6          | V          |
| Collector current            | $I_C$     | -2          | A          |
| Collector current (pulse) *  | $I_C$     | -3          | A          |
| Total power dissipation      | $P_T$     | 2           | W          |
| Junction temperature         | $T_j$     | 150         | $^\circ C$ |
| Storage temperature range    | $T_{stg}$ | -55 to +150 | $^\circ C$ |

\* Pulsed:  $PW \leq 10$  ms, duty cycle  $\leq 50\%$

■ Electrical Characteristics  $T_a = 25^\circ C$ 

| Parameter                      | Symbol        | Testconditions                              | Min   | Typ   | Max   | Unit |
|--------------------------------|---------------|---------------------------------------------|-------|-------|-------|------|
| Collector cutoff current       | $I_{CBO}$     | $V_{CB} = 16$ V, $I_E = 0$                  |       |       | -100  | nA   |
| Emitter cutoff current         | $I_{EBO}$     | $V_{EB} = -6.0$ V, $I_C = 0$                |       |       | -100  | nA   |
| DC current gain *              | $h_{FE}$      | $V_{CE} = -2.0$ V, $I_C = -100$ mA          | 135   | 350   | 600   |      |
|                                |               | $V_{CE} = -2.0$ V, $I_C = -2.0$ mA          | 40    |       |       |      |
| Collector saturation voltage * | $V_{CE(sat)}$ | $I_C = -1.5$ A, $I_B = -50$ mA              |       | -0.3  | -0.5  | V    |
| Base saturation voltage *      | $V_{BE(sat)}$ | $I_C = -1.5$ A, $I_B = -50$ mA              |       | -1.05 | -1.2  | V    |
| Base-emitter voltage *         | $V_{BE}$      | $V_{CE} = -6.0$ V, $I_C = -100$ mA          | -0.65 | -0.68 | -0.75 | V    |
| Gain bandwidth product         | $f_T$         | $V_{CE} = -10$ V, $I_E = 50$ mA             |       | 180   |       | MHz  |
| Output capacitance             | $C_{ob}$      | $V_{CB} = -10$ V, $I_E = 0$ , $f = 1.0$ MHz |       | 60    |       | pF   |

\* Pulsed:  $PW \leq 350$   $\mu s$ , duty cycle  $\leq 2\%$

■  $h_{FE}$  Classification

| Marking  | ZM      | ZL      | ZK      |
|----------|---------|---------|---------|
| $h_{FE}$ | 135~270 | 200~400 | 300~600 |