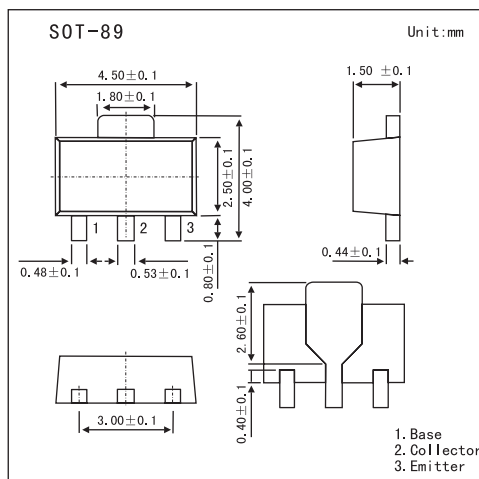


2SD1614

■ Features

- World standard miniature package.
- High dc current gain.
- Low $V_{CE(sat)}$.



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

| Parameter | Symbol | Rating | Unit |
|-----------------------------|-----------|-------------|------------------|
| Collector-base voltage | V_{CB0} | 40 | V |
| Collector-emitter voltage | V_{CE0} | 20 | V |
| Emitter-base voltage | V_{EB0} | 6 | V |
| Collector current (DC) | I_C | 2 | A |
| Collector Current (pulse) * | I_C | 3 | A |
| Total power dissipation | P_T | 2.0 | W |
| Junction temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

* Pulse Test $PW \leq 10\text{ms}$, Duty Cycle $\leq 50\%$.

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|--------------------------------|---------------|---|-----|------|-----|------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 30\text{ V}, I_E = 0\text{ A}$ | | | 100 | nA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = 6.0\text{ V}, I_C = 0\text{ A}$ | | | 100 | nA |
| DC current gain * | h_{FE} | $V_{CE} = 2.0\text{ V}, I_C = 100\text{ mA}$ | 135 | 350 | 600 | |
| Collector saturation voltage * | $V_{CE(sat)}$ | $I_C = 2\text{ A}, I_B = 50\text{ mA}$ | | 0.3 | 0.5 | V |
| Base saturation voltage * | $V_{BE(sat)}$ | $I_C = 2\text{ A}, I_B = 50\text{ mA}$ | | 0.95 | 1.2 | V |
| Base-emitter voltage * | V_{BE} | $V_{CE} = 6.0\text{ V}, I_C = 100\text{ mA}$ | 650 | 680 | 750 | mV |
| Gain bandwidth product | f_T | $V_{CE} = 10\text{ V}, I_E = -50\text{ mA}$ | | 200 | | MHz |
| Output capacitance | C_{ob} | $V_{CB} = 10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$ | | 28 | | pF |

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

■ hFE Classification

| Marking | XM | XL | XK |
|---------|---------|---------|---------|
| hFE | 135~270 | 200~400 | 300~600 |