

Transistor

Panasonic

2SC3811

Silicon NPN epitaxial planer type

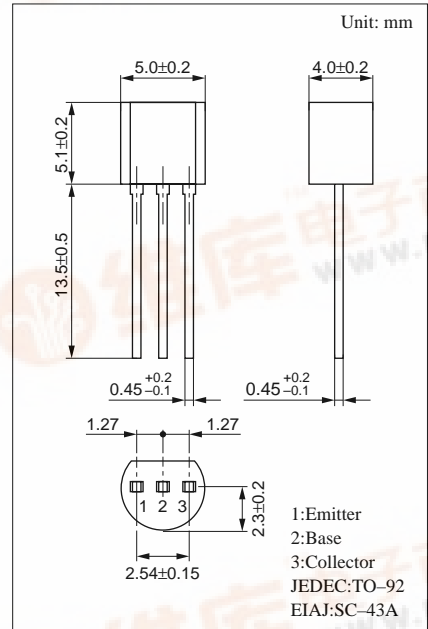
For high speed switching

Features

- High-speed switching.
- Low collector to emitter saturation voltage $V_{CE(sat)}$.

Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Ratings | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage | V_{CBO} | 40 | V |
| Collector to emitter voltage | V_{CES} | 40 | V |
| Emitter to base voltage | V_{EBO} | 5 | V |
| Peak collector current | I_{CP} | 300 | mA |
| Collector current | I_C | 100 | mA |
| Collector power dissipation | P_C | 400 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |



Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---------------|---|-----|------|------|---------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 40V, I_E = 0$ | | | 0.1 | μA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = 4V, I_C = 0$ | | | 0.1 | μA |
| Forward current transfer ratio | h_{FE}^* | $V_{CE} = 1V, I_C = 10mA$ | 60 | | 200 | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10mA, I_B = 1mA$ | | 0.17 | 0.25 | V |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 10mA, I_B = 1mA$ | | | 1.0 | V |
| Transition frequency | f_T | $V_{CB} = 10V, I_E = -10mA, f = 200MHz$ | | 450 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | | 2 | 6 | pF |
| Turn-on time | t_{on} | Refer to the measurement circuit | | 17 | | ns |
| Turn-off time | t_{off} | | | 17 | | ns |
| Storage time | t_{stg} | | | 10 | | ns |

* h_{FE} Rank classification

| Rank | Q | R |
|----------|----------|----------|
| h_{FE} | 60 ~ 120 | 90 ~ 200 |



