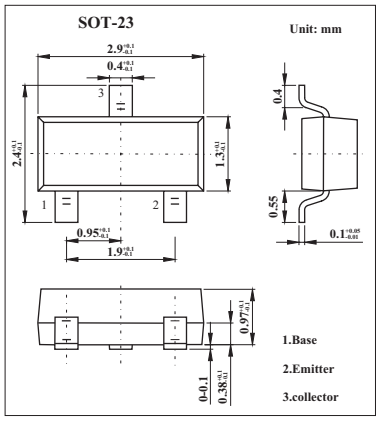
# NPN Silicon Epitaxial Transistor

# 2SC1621




## ■ Features

● High speed : $t_{stg}$=20ns MAX.

## ■ Absolute Maximum Ratings Ta = 25℃

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector to base voltage | $V_{CBO}$ | 40 | V |
| Collector to emitter voltage | $V_{CEO}$ | 20 | V |
| Emitter to base voltage | $V_{EBO}$ | 5 | V |
| Collector current (DC) | $I_C$ | 200 | mA |
| Total power dissipation | $P_T$ | 200 | mW |
| Junction temperature | $T_j$ | 150 | ℃ |
| Storage temperature range | $T_{stg}$ | -55 to +150 | ℃ |

## ■ Electrical Characteristics Ta = 25℃

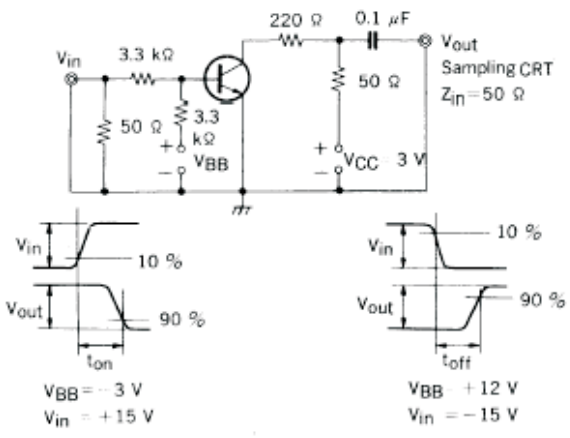
| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector cutoff current | $I_{CBO}$ | $V_{CB}$ = 30V, $I_E$=0 | | | 100 | nA |
| Emitter cutoff current | $I_{EBO}$ | $V_{EB}$ = 4V, $I_C$=0 | | | 100 | nA |
| DC current gain * | $h_{FE}$ | $V_{CE}$ = 0.5V , $I_C$ = 1mA | 40 | 80 | 180 | |
| Collector-emitter saturation voltage * | $V_{CE(sat)}$ | $I_C$ = 10mA , $I_B$ = 1mA | | 0.13 | 0.25 | V |
| Base-emitter saturation voltage * | $V_{BE(sat)}$ | $I_C$ = 10mA , $I_B$ = 1mA | | 0.74 | 0.85 | V |
| Gain bandwidth product | $f_T$ | $V_{CE}$ = 10V , $I_E$ = -10mA | 200 | 500 | | MHz |
| Output capacitance | $C_{ob}$ | $V_{CB}$ = 10V , $I_E$ = 0 , f = 1.0MHz | | 3.0 | 6.0 | pF |
| Turn-on time | $t_{on}$ | See Test Circuit | | 12 | 20 | ns |
| Storage time | $t_{stg}$ | | | 7 | 20 | ns |
| Turn-off time | $t_{off}$ | | | 18 | 40 | ns |

*. PW≤350μs,duty cycle≤2%

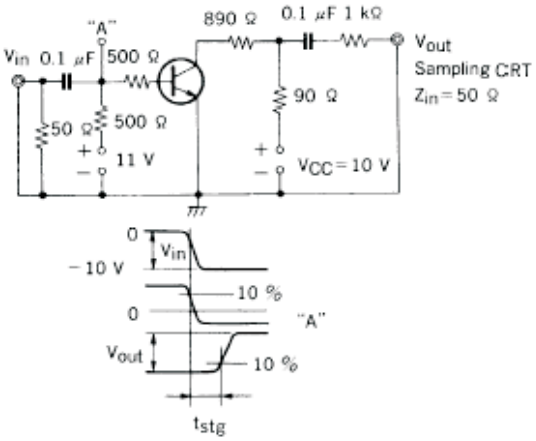
# 2SC1621

**SWITCHING TIME TEST CIRCUIT**

$t_{on}$, $t_{off}$ TEST CIRCUIT




$t_{stg}$ TEST CIRCUIT




## ■ hFE Classification

| Marking | B2 | B3 | B4 |
|---|---|---|---|
| hFE | 40～80 | 60～120 | 90～180 |