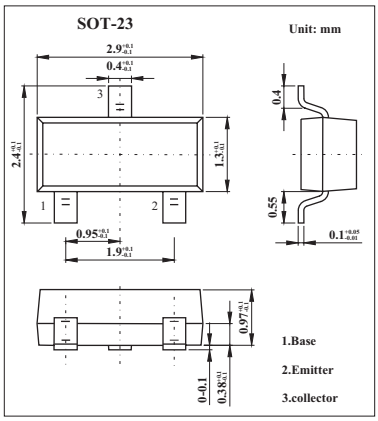
# Silicon NPN Epitaxial

# 2SC2714




## ■ Features

- Small reverse transfer capacitance: Cre = 0.7 pF (typ.)
- Low noise figure: NF = 2.5dB (typ.) (f = 100 MHz)

## ■ Absolute Maximum Ratings Ta = 25℃

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-base voltage | $V_{CBO}$ | 40 | V |
| Collector-emitter voltage | $V_{CEO}$ | 30 | V |
| Emitter-base voltage | $V_{EBO}$ | 4 | V |
| Collector current | $I_C$ | 20 | mA |
| Emitter current | $I_E$ | 4 | mA |
| Collector power dissipation | $P_C$ | 100 | mW |
| Junction temperature | Tj | 125 | ℃ |
| Storage temperature range | $T_{stg}$ | -55 to +125 | ℃ |

## ■ Electrical Characteristics Ta = 25℃

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector cut-off current | $I_{CBO}$ | $V_{CB}$ = 18 V, $I_E$ = 0 | | | 0.5 | μA |
| Emitter cut-off current | $I_{EBO}$ | $V_{EB}$ = 4 V, $I_C$ = 0 | | | 0.5 | μA |
| DC current gain | $h_{FE}$ | $V_{CE}$ = 6 V, $I_C$ = 1 mA | 40 | | 200 | |
| Reverse transfer capacitance | Cre | $V_{CB}$ = 6 V, f = 1 MHz | | 0.70 | | pF |
| Transition frequency | $f_T$ | $V_{CE}$ = 6 V, $I_C$ = 1 mA | | 550 | | MHz |
| Collector-base time constant | Cc.rbb' | | | | 30 | ps |
| Noise figure | NF | $V_{CE}$ = 6 V, $I_E$ = -1 mA, f = 100 MHz, | | 2.5 | 5.0 | dB |
| Power gain | $G_{pe}$ | | 17 | 23 | | dB |

## ■ $h_{FE}$ Classification

| Marking | QR | QO | QY |
|---|---|---|---|
| Rank | R | O | Y |
| hFE | 40～80 | 70～140 | 100～200 |