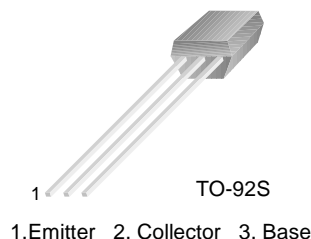


# FJNS3214R

## Switching Application (Bias Resistor Built In)

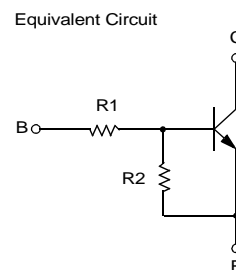
- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor ( $R_1 = 4.7K\Omega$ ,  $R_2 = 47K\Omega$ )
- Complement to FJNS4214R



## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol    | Parameter                   | Value     | Units            |
|-----------|-----------------------------|-----------|------------------|
| $V_{CBO}$ | Collector-Base Voltage      | 50        | V                |
| $V_{CEO}$ | Collector-Emitter Voltage   | 50        | V                |
| $V_{EBO}$ | Emitter-Base Voltage        | 10        | V                |
| $I_C$     | Collector Current           | 100       | mA               |
| $P_C$     | Collector Power Dissipation | 300       | mW               |
| $T_J$     | Junction Temperature        | 150       | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature         | -55 ~ 150 | $^\circ\text{C}$ |

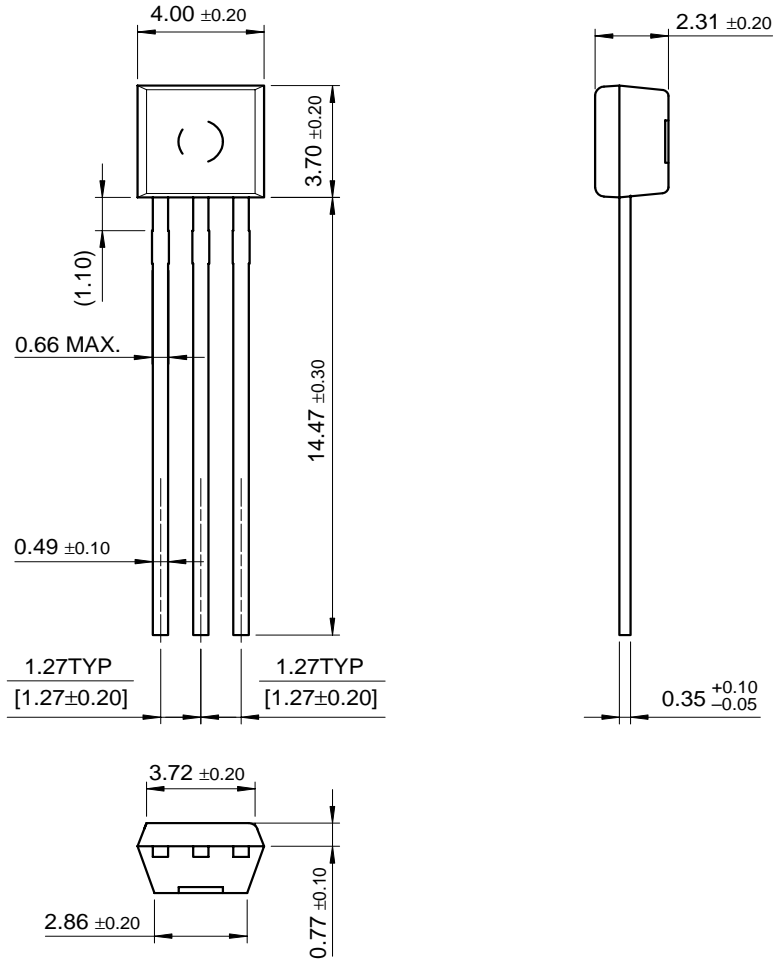


### Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol        | Parameter                            | Test Condition   | Min. | Typ. | Max. | Units         |
|---------------|--------------------------------------|--|------|------|------|---------------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage     | $I_C = 10\mu\text{A}$ , $I_E = 0$                        | 50   |      |      | V             |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = 100\mu\text{A}$ , $I_B = 0$                       | 50   |      |      | V             |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB} = 40\text{V}$ , $I_E = 0$                        |      |      | 0.1  | $\mu\text{A}$ |
| $h_{FE}$      | DC Current Gain                      | $V_{CE} = 5\text{V}$ , $I_C = 5\text{mA}$                | 68   |      |      |               |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 10\text{mA}$ , $I_B = 0.5\text{mA}$               |      |      | 0.3  | V             |
| $f_T$         | Current Gain Bandwidth Product       | $V_{CE} = 10\text{V}$ , $I_C = 5\text{mA}$               |      | 250  |      | MHz           |
| $C_{ob}$      | Output Capacitance                   | $V_{CB} = 10\text{V}$ , $I_E = 0$<br>$f = 1.0\text{MHz}$ |      | 3.7  |      | pF            |
| $V_{I(off)}$  | Input Off Voltage                    | $V_{CE} = 5\text{V}$ , $I_C = 100\mu\text{A}$            | 0.5  |      |      | V             |
| $V_{I(on)}$   | Input On Voltage                     | $V_{CE} = 0.2\text{V}$ , $I_C = 5\text{mA}$              |      |      | 1.3  | V             |
| $R_1$         | Input Resistor                       |  | 3.2  | 4.7  | 6.2  | $K\Omega$     |
| $R_1/R_2$     | Resistor Ratio                       |  | 0.09 | 0.1  | 0.11 |               |

# Package Dimensions

## TO-92S



Dimensions in Millimeters

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| EcoSPARK <sup>™</sup>                            | GTO <sup>™</sup>                | MSX <sup>™</sup>               | QT Optoelectronics <sup>™</sup> | TinyLogic <sup>™</sup>      |
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|--------------------------|------------------------|---|
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