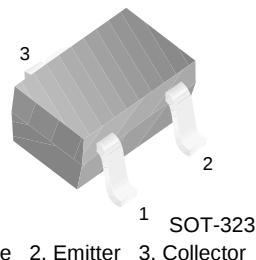


# FJX4012R

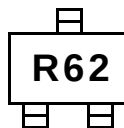
FJX4012R

## Switching Application (Bias Resistor Built In)

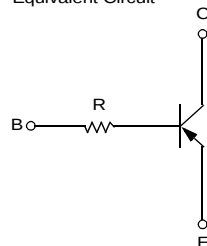
- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor ( $R=47K\Omega$ )
- Complement to FJX3012R



Marking



Equivalent Circuit



## PNP Epitaxial Silicon Transistor

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

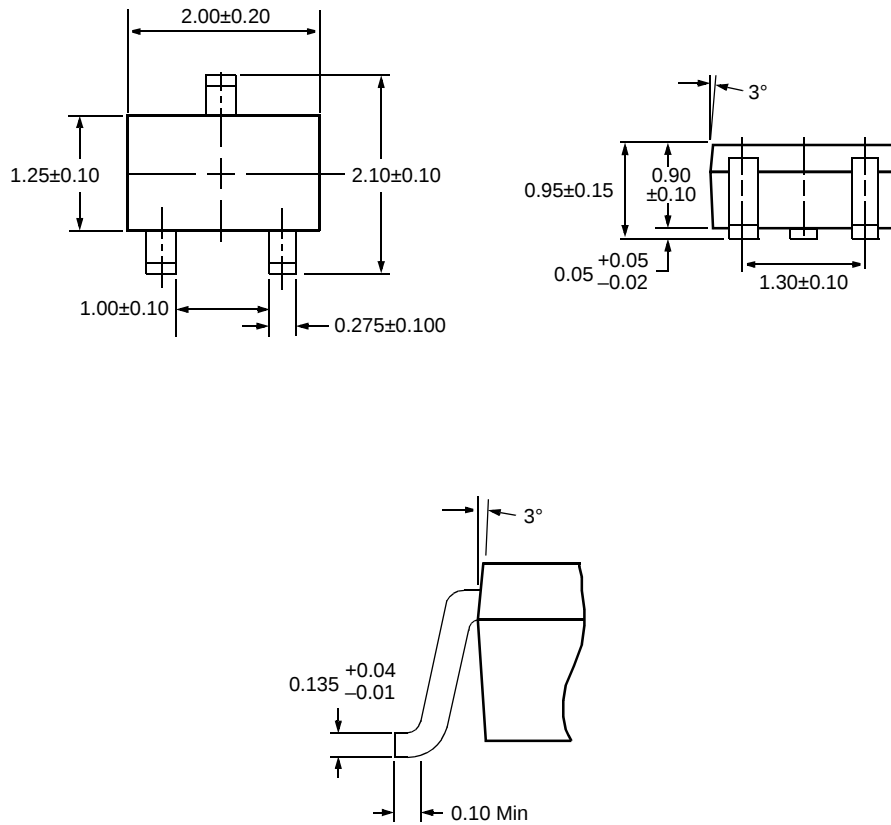
| Symbol    | Parameter                   | Value     | Units            |
|-----------|-----------------------------|-----------|------------------|
| $V_{CBO}$ | Collector-Base Voltage      | -40       | V                |
| $V_{CEO}$ | Collector-Emitter Voltage   | -40       | V                |
| $V_{EBO}$ | Emitter-Base Voltage        | -5        | V                |
| $I_C$     | Collector Current           | -100      | mA               |
| $P_C$     | Collector Power Dissipation | 200       | 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     | $I_C = -100\mu\text{A}, I_E = 0$                     | -40  |      |      | V             |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = -1\text{mA}, I_B = 0$                         | -40  |      |      | V             |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB} = -30\text{V}, I_E = 0$                      |      |      | -0.1 | $\mu\text{A}$ |
| $h_{FE}$      | DC Current Gain                      | $V_{CE} = -5\text{V}, I_C = -1\text{mA}$             | 100  |      | 600  |               |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -10\text{mA}, I_B = -1\text{mA}$              |      |      | -0.3 | V             |
| $C_{ob}$      | Output Capacitance                   | $V_{CB} = -10\text{V}, I_E = 0$<br>$f = 1\text{MHz}$ |      | 5.5  |      | pF            |
| $f_T$         | Current Gain Bandwidth Product       | $V_{CE} = -10\text{V}, I_C = -5\text{mA}$            |      | 200  |      | MHz           |
| R             | Input Resistor                       |                                                      | 32   | 47   | 62   | K $\Omega$    |

# Package Dimensions

## SOT-323



Dimensions in Millimeters

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| ActiveArray <sup>™</sup>                         | FACT Quiet series <sup>™</sup>  | ISOPLANAR <sup>™</sup>         | POP <sup>™</sup>                | Stealth <sup>™</sup>        |
| Bottomless <sup>™</sup>                          | FAST <sup>®</sup>               | LittleFET <sup>™</sup>         | Power247 <sup>™</sup>           | SuperSOT <sup>™</sup> -3    |
| CoolFET <sup>™</sup>                             | FAST <sup>™</sup>               | MicroFET <sup>™</sup>          | PowerTrench <sup>®</sup>        | SuperSOT <sup>™</sup> -6    |
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| EcoSPARK <sup>™</sup>                            | GTO <sup>™</sup>                | MSX <sup>™</sup>               | QT Optoelectronics <sup>™</sup> | TinyLogic <sup>™</sup>      |
| E <sup>2</sup> CMOS <sup>™</sup>                 | HiSeC <sup>™</sup>              | MSXPro <sup>™</sup>            | Quiet Series <sup>™</sup>       | TruTranslation <sup>™</sup> |
| EnSigna <sup>™</sup>                             | I <sup>2</sup> C <sup>™</sup>   | OCX <sup>™</sup>               | RapidConfigure <sup>™</sup>     | UHC <sup>™</sup>            |
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| The Power Franchise <sup>™</sup>                 |                                 | OPTOLOGIC <sup>®</sup>         | SILENT SWITCHER <sup>®</sup>    | VCX <sup>™</sup>            |
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|--------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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