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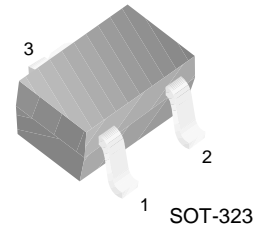
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## FJX3010R

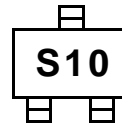
### Switching Application (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor (R=10KΩ)
- Complement to FJX4010R

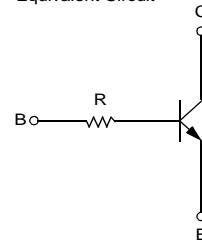


1. Base 2. Emitter 3. Collector

Marking



Equivalent Circuit



### NPN Epitaxial Silicon Transistor

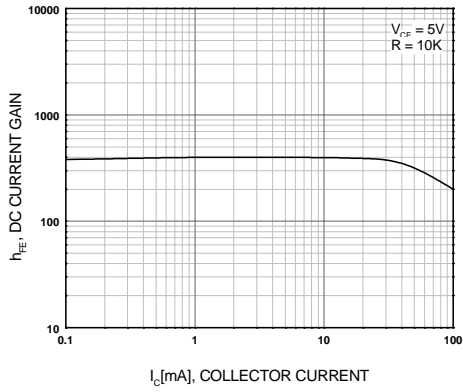
#### Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol    | Parameter                   | Value     | Units            |
|-----------|-----------------------------|-----------|------------------|
| $V_{CBO}$ | Collector-Base Voltage      | 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 | $^\circ\text{C}$ |

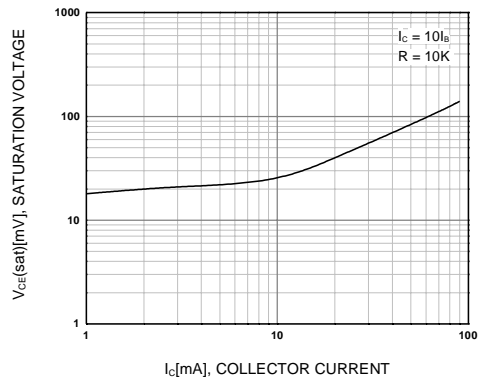
#### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| 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  | $I_E=1\text{mA}, I_B=0$                       | 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>$f=1\text{MHz}$ |      | 3.7  |      | pF            |
| $f_T$         | Current Gain Bandwidth Product       | $V_{CE}=10\text{V}, I_C=5\text{mA}$           |      | 250  |      | MHz           |
| R             | Input Resistor                       |   | 7    | 10   | 13   | KΩ            |

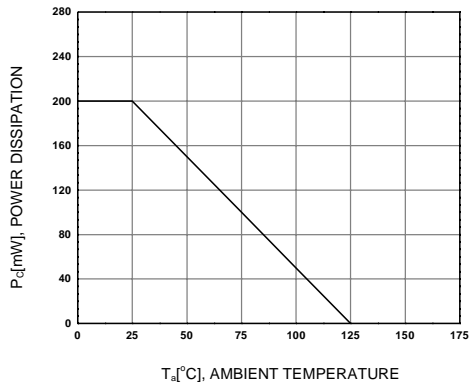
## Typical Characteristics



**Figure 1. DC current Gain**



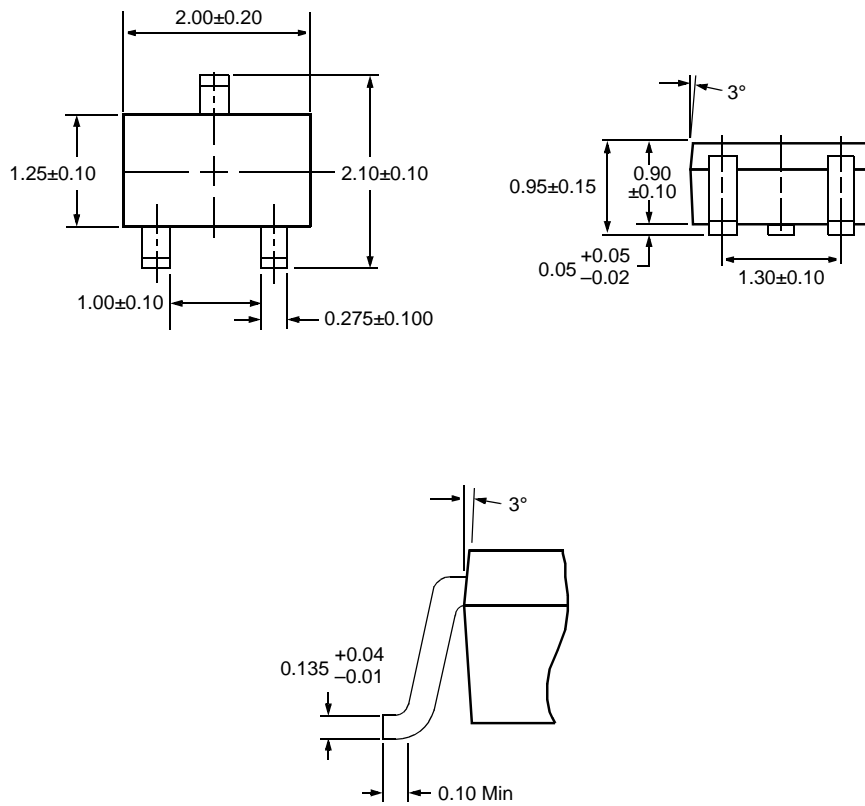
**Figure 2. Collector-Emitter Saturation Voltage**



**Figure 3. Power Derating**

### Package Dimensions

### SOT-323



Dimensions in Millimeters

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| ActiveArray™                         | FACT Quiet series™  | ISOPANAR™          | POP™                | Stealth™        |
| Bottomless™                          | FAST®               | LittleFET™         | Power247™           | SuperSOT™-3     |
| CoolFET™                             | FASTr™              | MicroFET™          | PowerTrench®        | SuperSOT™-6     |
| CROSSVOLT™                           | FRFET™              | MicroPak™          | QFET™               | SuperSOT™-8     |
| DOME™                                | GlobalOptoisolator™ | MICROWIRE™         | QS™                 | SyncFET™        |
| EcoSPARK™                            | GTO™                | MSX™               | QT Optoelectronics™ | TinyLogic™      |
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| Across the board. Around the world.™ | OCXPro™             | OPTOLOGIC®         | RapidConnect™       | UltraFET®       |
| The Power Franchise™                 | OPTOPLANAR™         | SMART START™       | SILENT SWITCHER®    | VCX™            |
| Programmable Active Droop™           |                     |                    |                     |                 |

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