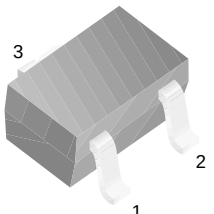
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# FJX3008R

## Switching Application (Bias Resistor Built In)

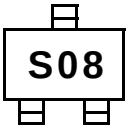
- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor ($R_1$=47KΩ, $R_2$=22KΩ)
- Complement to FJX4008R



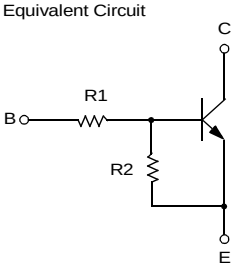

SOT-323

1. Base 2. Emitter 3. Collector

Marking




Equivalent Circuit




## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a$=25°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 | 200 | mW |
| $T_J$ | Junction Temperature | 150 | °C |
| $T_{STG}$ | Storage Temperature | -55 ~ 150 | °C |

### Electrical Characteristics $T_a$=25°C unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| $BV_{CBO}$ | Collector-Base Breakdown Voltage | $I_C$=10μA, $I_E$=0 | 50 | | | V |
| $BV_{CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$=100μA, $I_B$=0 | 50 | | | V |
| $I_{CBO}$ | Collector Cut-off Current | $V_{CB}$=40V, $I_E$=0 | | | 0.1 | μA |
| $h_{FE}$ | DC Current Gain | $V_{CE}$=5V, $I_C$=5mA | 56 | | | |
| $V_{CE}$(sat) | Collector-Emitter Saturation Voltage | $I_C$=10mA, $I_B$=0.5mA | | | 0.3 | V |
| $f_T$ | Current Gain Bandwidth Product | $I_C$=10mA, $I_B$=0.5mA | | 250 | | MHz |
| $C_{ob}$ | Output Capacitance | $V_{CB}$=10V, $I_E$=0 f=1.0MHz | | 3.7 | | pF |
| $V_I$(off) | Input Off Voltage | $V_{CE}$=5V, $I_C$=100μA | 0.8 | | | V |
| $V_I$(on) | Input On Voltage | $V_{CE}$=0.3V, $I_C$=2mA | | | 4 | V |
| $R_1$ | Input Resistor | | 32 | 47 | 62 | KΩ |
| $R_1/R_2$ | Resistor Ratio | | 1.9 | 2.1 | 2.4 | |

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# Typical Characteristics

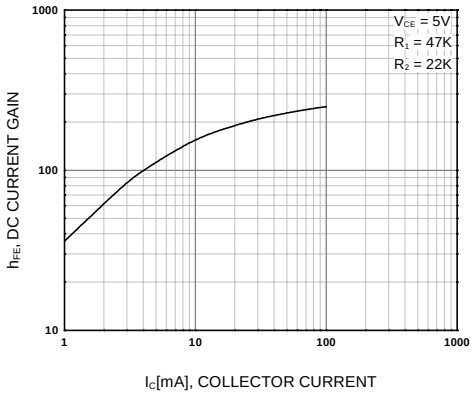



**Figure 1. DC current Gain**

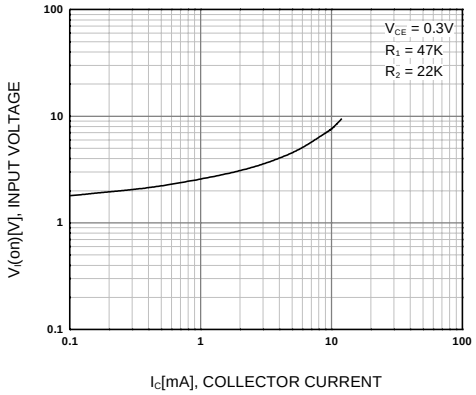



**Figure 2. Input On Voltage**

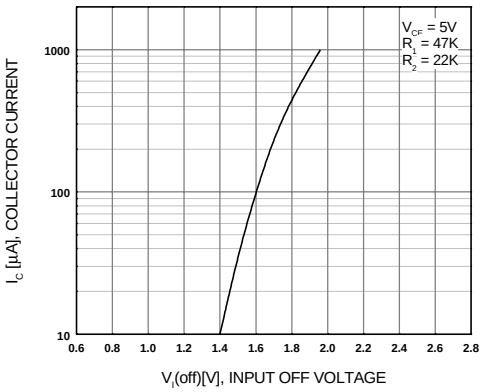



**Figure 3. Input Off Voltage**

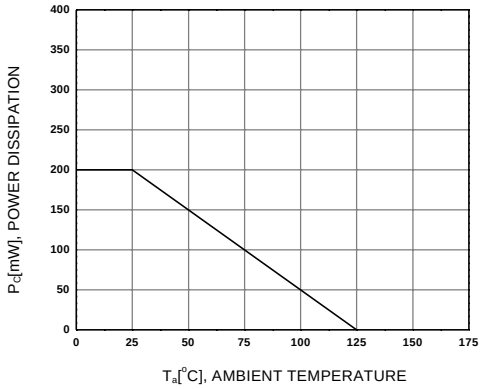
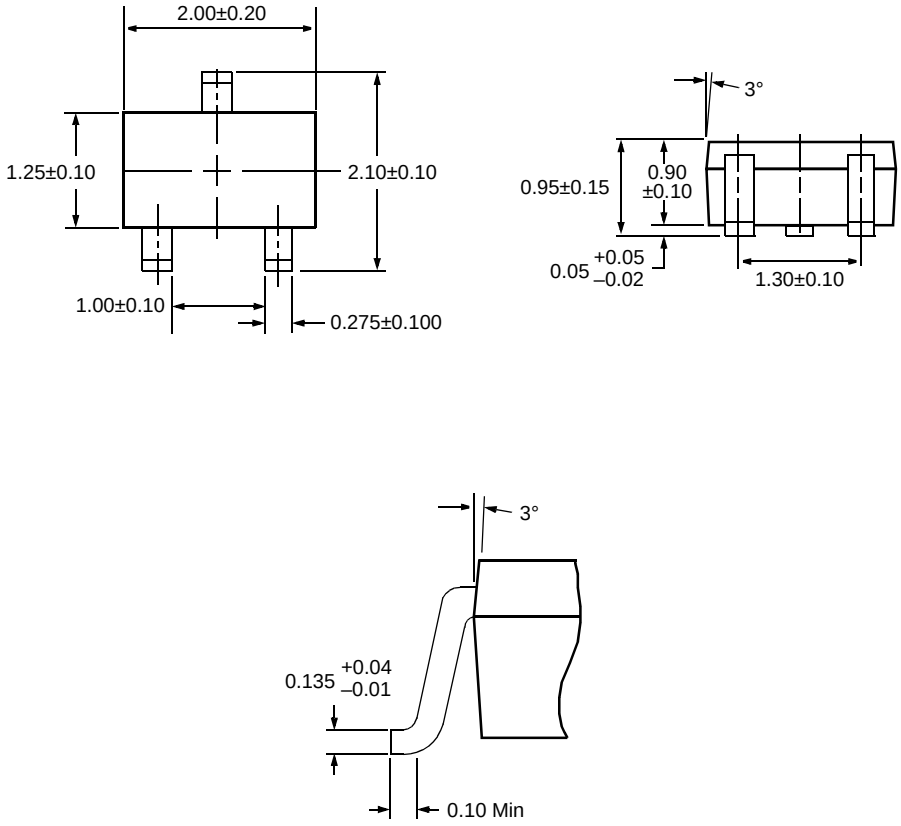



**Figure 4. Power Derating**

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## Package Dimensions

SOT-323




Dimensions in Millimeters

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