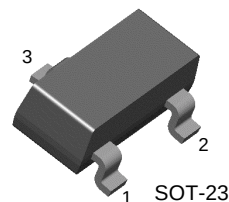


## FJV4109R

FJV4109R

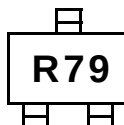
### Switching Application (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor ( $R=4.7K\Omega$ )
- Complement to FJV3109R

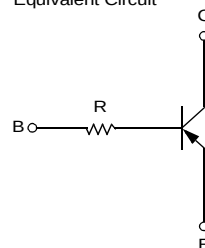


1. Base 2. Emitter 3. Collector

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                       |                                                         | 3.2  | 4.7  | 6.2  | $K\Omega$     |

## Typical Characteristics

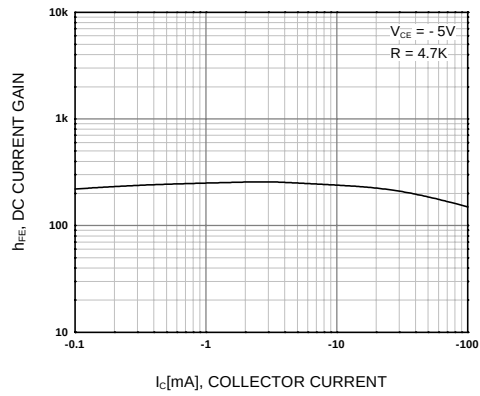


Figure 1. DC current Gain

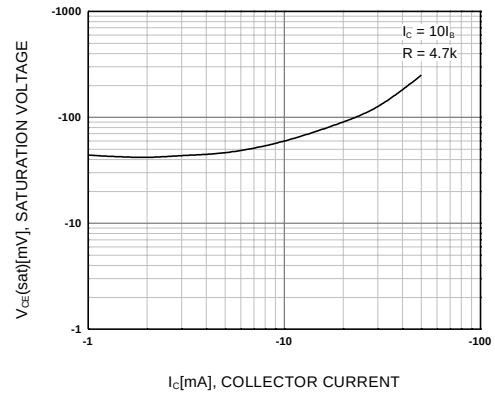


Figure 2. Collector-Emitter Saturation Voltage

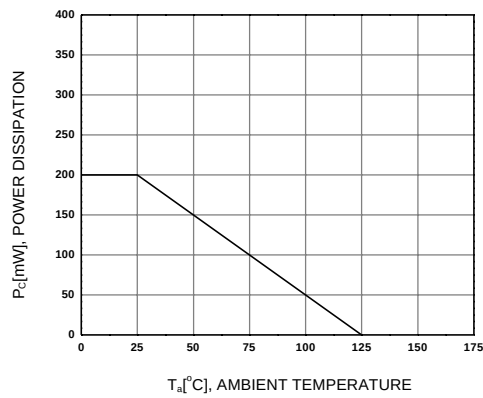
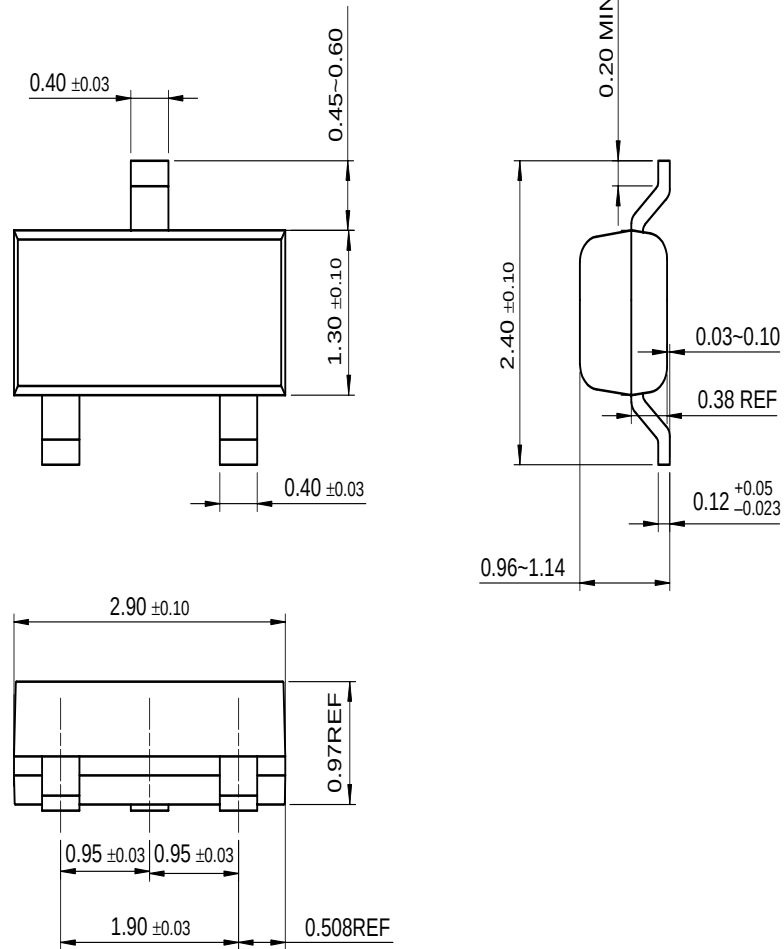


Figure 3. Power Derating

## Package Dimensions

## SOT-23



Dimensions in Millimeters

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