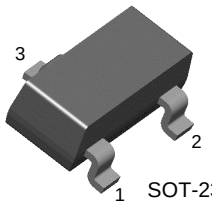
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# FJV4109R

## Switching Application (Bias Resistor Built In)

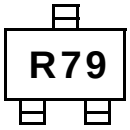
- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor (R=4.7KΩ)
- Complement to FJV3109R



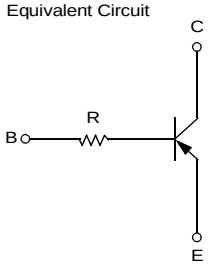

SOT-23

1. Base 2. Emitter 3. Collector

Marking




Equivalent Circuit




## PNP Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a$=25°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 | °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 | $I_C$= -100μA, $I_E$=0 | -40 | | | V |
| $BV_{CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= -1mA, $I_B$=0 | -40 | | | V |
| $I_{CBO}$ | Collector Cut-off Current | $V_{CB}$= -30V, $I_E$=0 | | | -0.1 | μA |
| $h_{FE}$ | DC Current Gain | $V_{CE}$= -5V, $I_C$= -1mA | 100 | | 600 | |
| $V_{CE}$ (sat) | Collector-Emitter Saturation Voltage | $I_C$= -10mA, $I_B$= -1mA | | | -0.3 | V |
| $C_{ob}$ | Output Capacitance | $V_{CB}$= -10V, $I_E$=0 f=1MHz | | 5.5 | | pF |
| $f_T$ | Current Gain Bandwidth Product | $V_{CE}$= -10V, $I_C$= -5mA | | 200 | | MHz |
| R | Input Resistor | | 3.2 | 4.7 | 6.2 | KΩ |

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# Typical Characteristics

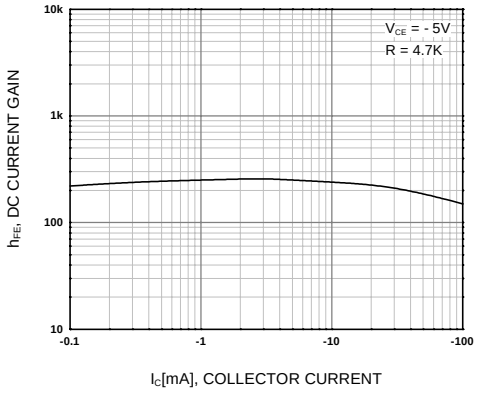



**Figure 1. DC current Gain**

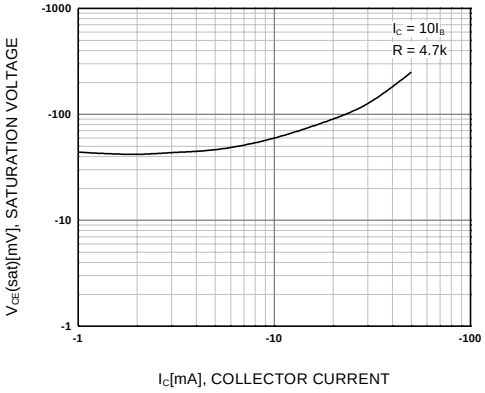



**Figure 2. Collector-Emitter Saturation Voltage**

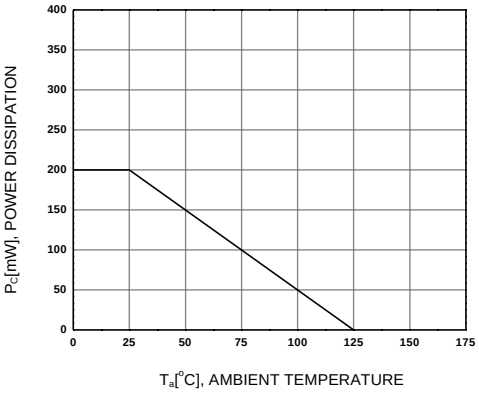
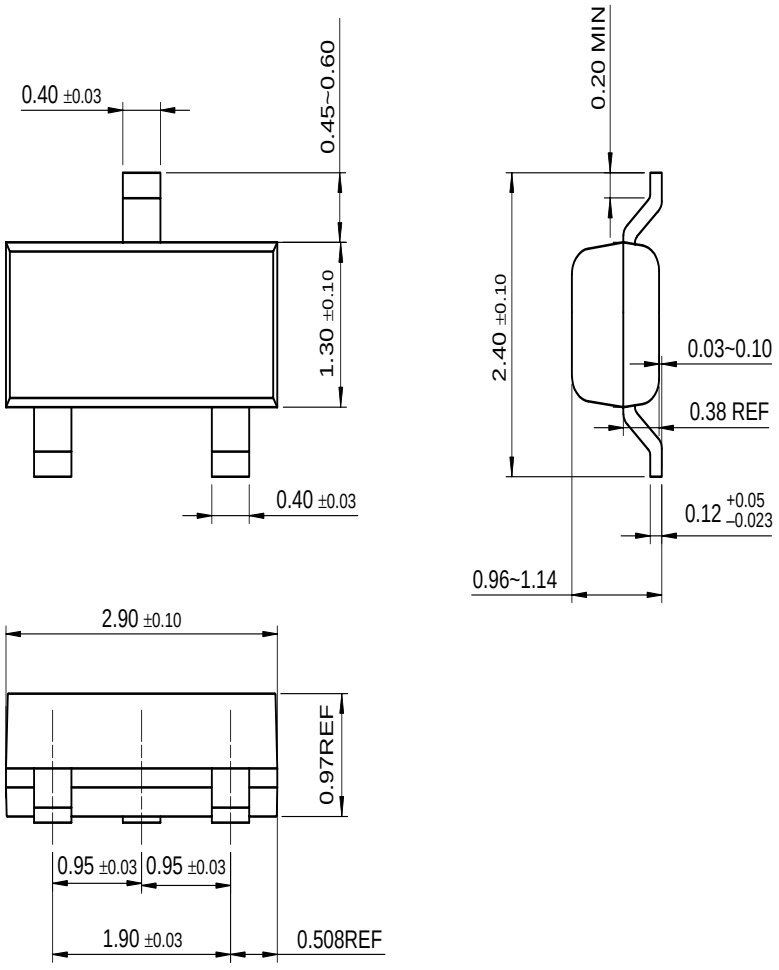



**Figure 3. Power Derating**

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## Package Dimensions

SOT-23




Dimensions in Millimeters

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| CoolFET™ | FASTr™ | MicroFET™ | PowerTrench® | SuperSOT™-6 |
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| EnSigna™ | $I^2C$™ | OCX™ | RapidConfigure™ | UHC™ |
| Across the board. Around the world.™ | | OCXPro™ | RapidConnect™ | UltraFET® |
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| Programmable Active Droop™ | | OPTOPLANAR™ | SMART START™ | |

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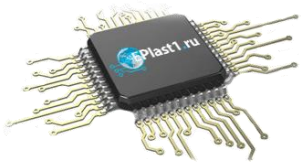
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**Телефон:** 8 (812) 309 58 32 (многоканальный)
**Факс:** 8 (812) 320-02-42
**Электронная почта:** org@eplast1.ru
**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.