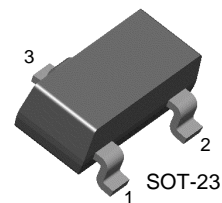


KSR2104

KSR2104

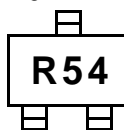
Switching Application (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor ($R_1=47K\Omega$, $R_2=47K\Omega$)
- Complement to KSR1104

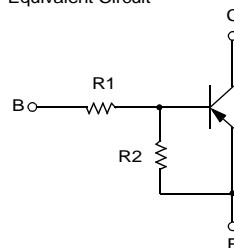


1. Base 2. Emitter 3. Collector

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 | -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 | $^\circ\text{C}$ |
| 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 | $I_C = -10\mu\text{A}$, $I_E = 0$ | -50 | | | V |
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C = -100\mu\text{A}$, $I_B = 0$ | -50 | | | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB} = -40\text{V}$, $I_E = 0$ | | | -0.1 | μA |
| h_{FE} | DC Current Gain | $V_{CE} = -5\text{V}$, $I_C = -5\text{mA}$ | 68 | | | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -10\text{mA}$, $I_B = -0.5\text{mA}$ | | | -0.3 | V |
| f_T | Current Gain Bandwidth Product | $V_{CE} = -10\text{V}$, $I_C = -5\text{mA}$ | | 200 | | MHz |
| C_{ob} | Output Capacitance | $V_{CB} = -10\text{V}$, $I_E = 0$ $f = 1.0\text{MHz}$ | | 5.5 | | pF |
| $V_I(off)$ | Input Off Voltage | $V_{CE} = -5\text{V}$, $I_C = -100\mu\text{A}$ | -0.5 | | | V |
| $V_I(on)$ | Input On Voltage | $V_{CE} = -0.3\text{V}$, $I_C = -2\text{mA}$ | | | -3 | V |
| R_1 | Input Resistor | | 32 | 47 | 62 | $K\Omega$ |
| R_1/R_2 | Resistor Ratio | | 0.9 | 1 | 1.1 | |

Typical Characteristics

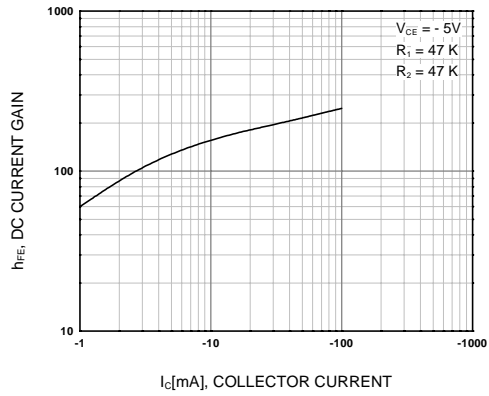


Figure 1. DC current Gain

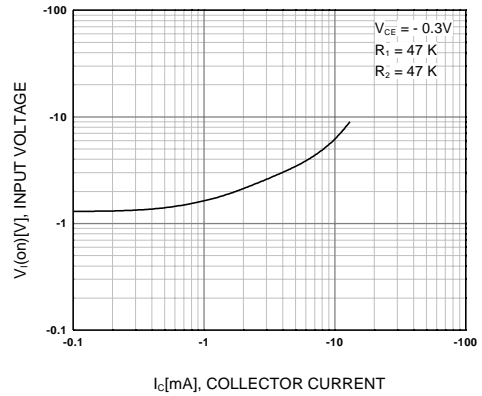


Figure 2. Input On Voltage

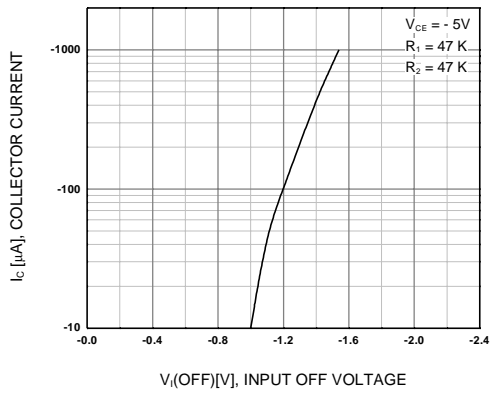


Figure 3. Input Off Voltage

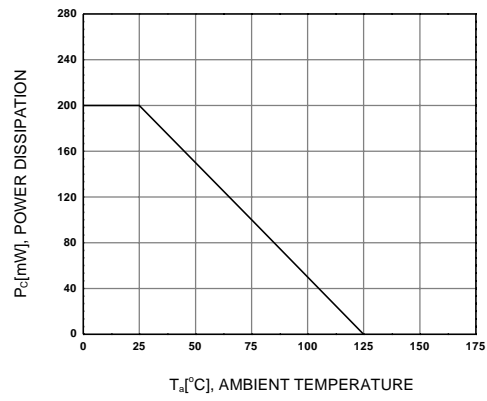
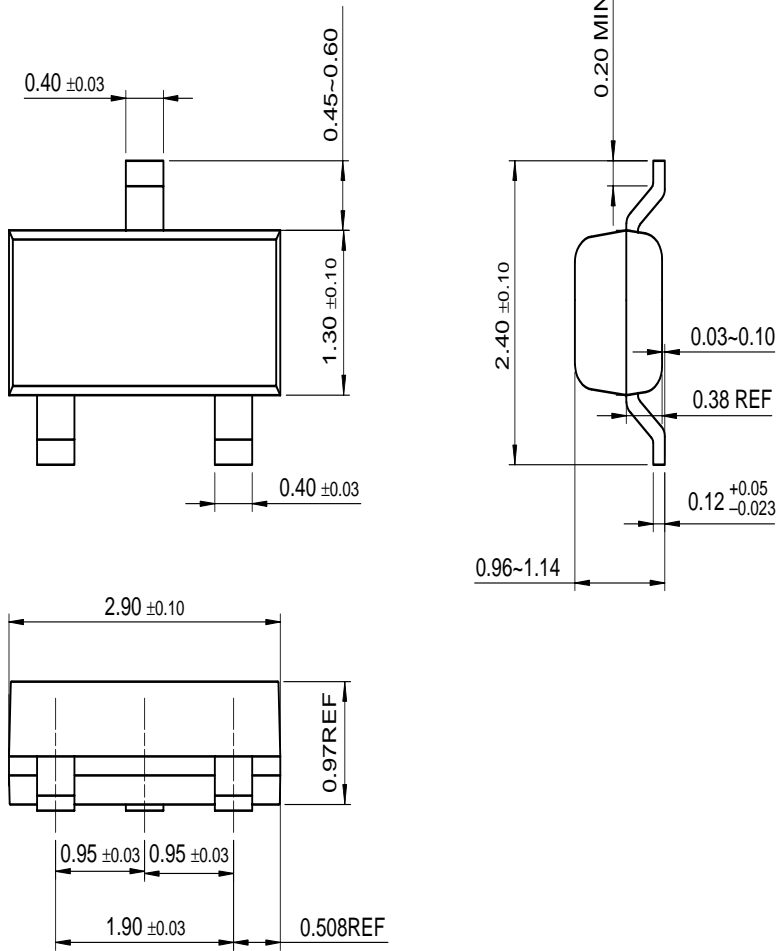


Figure 4. Power Derating

Package Dimensions

SOT-23



Dimensions in Millimeters

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