

KSR2109**PNP EPITAXIAL SILICON TRANSISTOR**

T-37-13

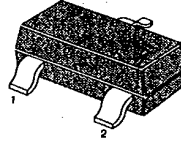
SWITCHING APPLICATION (Bias Resistor Built In)

- Switching Circuit, Inverter, Interface circuit
Driver circuit
- Built in bias Resistor ($R=4.7K\Omega$)
- Complement to KSR1109

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|-----------|---------|------------------|
| Collector-Base Voltage | V_{CBO} | -40 | V |
| Collector-Emitter Voltage | V_{CEO} | -40 | V |
| Emitter-Base Voltage | V_{EBO} | -5 | V |
| Collector Current | I_C | -100 | mA |
| Collector Dissipation | P_C | 200 | mW |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55~150 | $^\circ\text{C}$ |

SOT-23

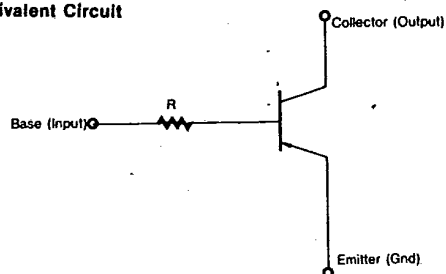
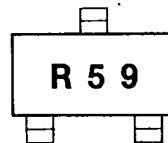


1. Base 2. Emitter 3. Collector

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ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

| Characteristic | Symbol | Test Condition | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|------|---------------|
| Collector-Base Breakdown Voltage | BV_{CBO} | $I_C = -100\mu\text{A}, I_E = 0$ | -40 | | | V |
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C = -1\text{mA}, I_B = 0$ | -40 | | | V |
| Collector Cutoff Current | I_{CBO} | $V_{CB} = -30\text{V}, I_E = 0$ | | | -0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE} = -5\text{V}, I_C = -1\text{mA}$ | 100 | | 600 | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -10\text{mA}, I_B = -1\text{mA}$ | | | -0.3 | V |
| Output Capacitance | C_{ob} | $V_{CB} = -10\text{V}, I_E = 0$ $f = 1\text{MHz}$ | | 5.5 | | pF |
| Current Gain-Bandwidth Product | f_T | $V_{CE} = -10\text{V}, I_C = -5\text{mA}$ | | 200 | | MHz |
| Input Resistor | R_i | | 3.2 | 4.7 | 6.2 | $K\Omega$ |

Equivalent Circuit**Marking**

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