

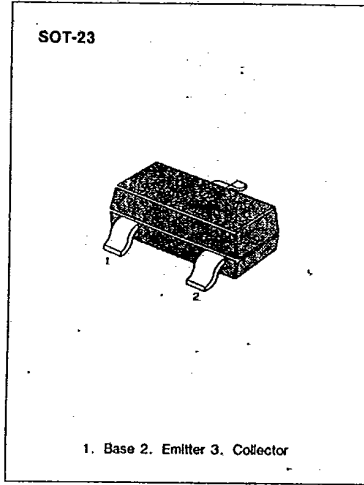
KSR1107 NPN EPITAXIAL SILICON TRANSISTOR

SWITCHING APPLICATION (Bias Resistor Built In)

- Switching Circuit, Inverter, Interface circuit
Driver circuit
- Built in bias Resistor ($R_1=22K\Omega$, $R_2=47K\Omega$)
- Complement to KSR2107

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

| Characteristic | Symbol | Rating | Unit |
|---------------------------|-----------|-----------|------------|
| Collector-Base Voltage | V_{CBO} | 50 | V |
| Collector-Emitter Voltage | V_{CEO} | 50 | V |
| Emitter-Base Voltage | V_{EBO} | 10 | V |
| Collector Current | I_C | 100 | mA |
| Collector Dissipation | P_C | 200 | mW |
| Junction Temperature | T_j | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | -55 ~ 150 | $^\circ C$ |

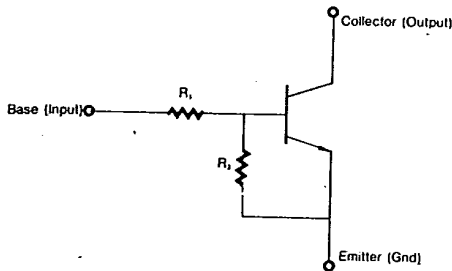


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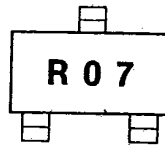
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

| Characteristic | Symbol | Test Condition | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---------------------------------|------|------|------|------------|
| Collector-Base Breakdown Voltage | BV_{CBO} | $I_C=10\mu A, I_E=0$ | 50 | | | V |
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C=100\mu A, I_B=0$ | 50 | | | V |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=40V, I_E=0$ | | | 0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=5V, I_C=5mA$ | 68 | | | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=10mA, I_B=0.5mA$ | | | 0.3 | V |
| Output Capacitance | C_{ob} | $V_{CB}=10V, I_E=0$ $f=1MHz$ | | 3.7 | | pF |
| Current Gain-Bandwidth Product | f_T | $V_{CE}=5mA, I_C=10V$ | | 250 | | MHz |
| Input Off Voltage | $V_i(off)$ | $V_{CE}=5V, I_C=100\mu A$ | 0.4 | | | V |
| Input On Voltage | $V_i(on)$ | $V_{CE}=0.3V, I_C=2mA$ | | | 2.5 | V |
| Input Resistor | R_1 | | 15 | 22 | 29 | K Ω |
| Resistor Ratio | R_1/R_2 | | 0.42 | 0.47 | 0.52 | |

Equivalent Circuit



Marking



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