

KSR1210

NPN EPITAXIAL SILICON TRANSISTOR

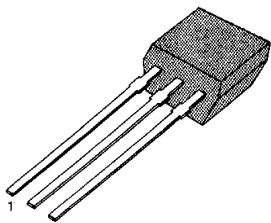
SWITCHING APPLICATION (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor (R=10kΩ)
- Complement to KSR2210

ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25 °C)

| Characteristic            | Symbol           | Rating    | Unit |
|---------------------------|------------------|-----------|------|
| Collector-Base Voltage    | V <sub>CBO</sub> | 40        | V    |
| Collector-Emitter Voltage | V <sub>CEO</sub> | 40        | V    |
| Emitter-Base Voltage      | V <sub>EB0</sub> | 5         | V    |
| Collector Current         | I <sub>C</sub>   | 100       | mA   |
| Collector Dissipation     | P <sub>C</sub>   | 300       | mW   |
| Junction Temperature      | T <sub>J</sub>   | 150       | °C   |
| Storage Temperature       | T <sub>STG</sub> | -55 ~ 150 | °C   |

TO-92S

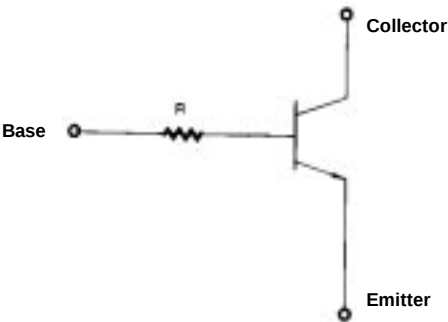


1. Emitter 2. Collector 3. Base

ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25 °C)

| Characteristic                       | Symbol                | Test Conditions                                   | Min | Typ | Max | Unit |
|--------------------------------------|-----------------------|---------------------------------------------------|-----|-----|-----|------|
| Collector-Base Breakdown Voltage     | BV <sub>CBO</sub>     | I <sub>C</sub> =100μA, I <sub>E</sub> =0          | 40  |     |     | V    |
| Collector-Emitter Breakdown Voltage  | BV <sub>CEO</sub>     | I <sub>E</sub> =1mA, I <sub>B</sub> =0            | 40  |     |     | V    |
| Collector Cut-off Current            | I <sub>CBO</sub>      | V <sub>CB</sub> =30V, I <sub>E</sub> =0           |     |     | 0.1 | μA   |
| DC Current Gain                      | h <sub>FE</sub>       | V <sub>CE</sub> =5V, I <sub>C</sub> =1mA          | 100 |     | 600 |      |
| Collector-Emitter Saturation Voltage | V <sub>CE (sat)</sub> | I <sub>C</sub> =10mA, I <sub>B</sub> =1mA         |     |     | 0.3 | V    |
| Output Capacitance                   | C <sub>OB</sub>       | V <sub>CB</sub> =10V, I <sub>E</sub> =0<br>f=1MHz |     | 3.7 |     | pF   |
| Current Gain-Bandwidth Product       | f <sub>T</sub>        | V <sub>CE</sub> =10V, I <sub>C</sub> =5mA         |     | 250 |     | MHz  |
| Input Resistor                       | R                     |                                                   | 7   | 10  | 13  | kΩ   |

Equivalent Circuit



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