

KSR1009

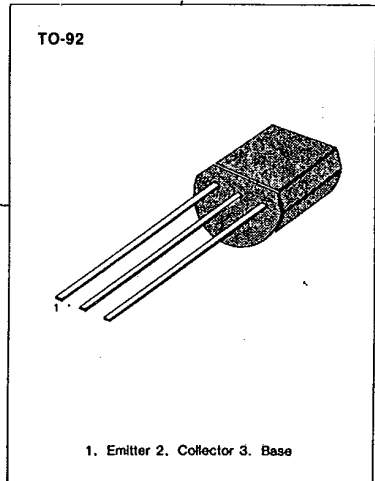
NPN EPITAXIAL SILICON TRANSISTOR

SWITCHING APPLICATION (Bias Resistor Built In)

- Switching Circuit, Inverter, Interface circuit
Driver circuit
- Built in bias Resistor (R=4.7KΩ)
- Complement to KSR2009

ABSOLUTE MAXIMUM RATINGS (T_a = 25°C)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|------------------|-----------|------|
| Collector-Base Voltage | V _{CB0} | 40 | V |
| Collector-Emitter Voltage | V _{CEO} | 40 | V |
| Emitter-Base Voltage | V _{EB0} | 5 | V |
| Collector Current | I _C | 100 | mA |
| Collector Dissipation | P _C | 300 | mW |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature | T _{stg} | -55 ~ 150 | °C |

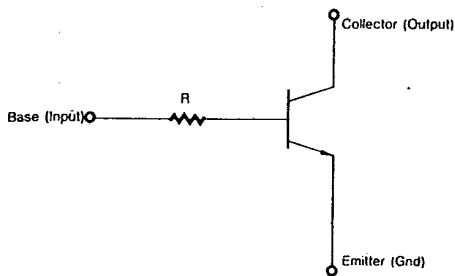


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ELECTRICAL CHARACTERISTICS (T_a = 25°C)

| Characteristic | Symbol | Test Condition | Min | Typ | Max | Unit |
|--------------------------------------|----------------------|---|-----|------|-----|------|
| Collector-Base Breakdown Voltage | BV _{CB0} | I _C = 100μA, I _E = 0 | 40 | | | V |
| Collector-Emitter Breakdown Voltage | BV _{CEO} | I _C = 1mA, I _B = 0 | 40 | | | V |
| Collector Cutoff Current | I _{CB0} | V _{CB} = 30V, I _E = 0 | | | 0.1 | μA |
| DC Current Gain | h _{FE} | V _{CE} = 5V, I _C = 1mA | 100 | | 600 | |
| Collector-Emitter Saturation Voltage | V _{CE(sat)} | I _C = 10mA, I _B = 1mA | | | 0.3 | V |
| Output Capacitance | C _{ob} | V _{CB} = 10V, I _E = 0 f = 1MHz | | 3.70 | | pF |
| Current Gain-Bandwidth Product | f _T | V _{CE} = 10V, I _C = 5mA | | 250 | | MHz |
| Input Resistor | R | | 3.2 | 4.7 | 6.2 | KΩ |

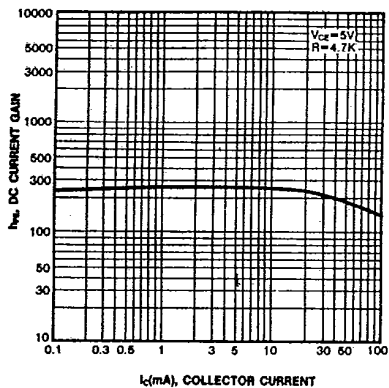
Equivalent Circuit



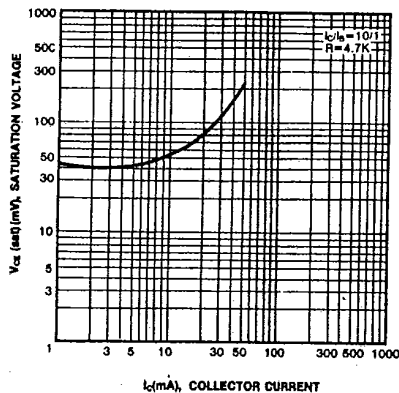
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NPN EPITAXIAL SILICON TRANSISTOR

DC CURRENT GAIN



COLLECTOR-EMITTER SATURATION VOLTAGE



POWER DERATING

