

TO-126 Plastic-Encapsulate Transistors

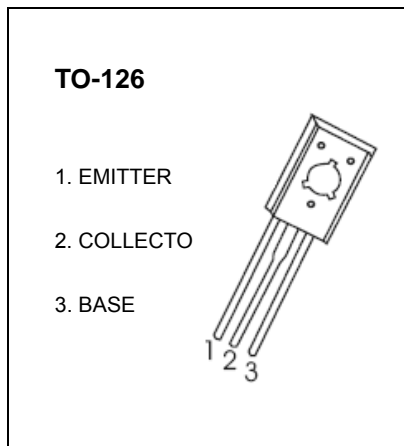
KSD1691 TRANSISTOR (NPN)

FEATURES

- Low Collector-Emitter Saturation Voltage & Large Collector Current
- High Power Dissipation: PC = 1.3W (Ta=25°C)

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|------------------|--|---------|------|
| V _{CB0} | Collector-Base Voltage | 60 | V |
| V _{CEO} | Collector-Emitter Voltage | 60 | V |
| V _{EBO} | Emitter-Base Voltage | 7 | V |
| I _C | Collector Current (DC) | 5 | A |
| P _C | Collector Power Dissipation (T _a = 25 °C) | 1.3 | W |
| | Collector Power Dissipation (T _c = 25 °C) | 20 | W |
| T _J | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature | -55-150 | °C |



ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|----------------------|---|-----|-----|-----|------|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _C =100μA, I _E =0 | 60 | | | V |
| Collector-emitter breakdown voltage | V _{(BR)CEO} | I _C =1mA, I _B =0 | 60 | | | V |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E =100μA, I _C =0 | 7 | | | V |
| Collector cut-off current | I _{CBO} | V _{CB} =50V, I _E =0 | | | 10 | μA |
| Emitter cut-off current | I _{EBO} | V _{EB} =7V, I _C =0 | | | 10 | μA |
| DC current gain | h _{FE(1)} | V _{CE} =1V, I _C =2A | 100 | | 400 | |
| | h _{FE(2)} | V _{CE} =1V, I _C =0.1A | 60 | | | |
| | h _{FE(3)} | V _{CE} =1V, I _C =5A | 50 | | | |
| Collector-emitter saturation voltage | V _{CE(sat)} | I _C =2A, I _B =0.2A | | | 0.3 | V |
| Base-emitter saturation voltage | V _{BE(sat)} | I _C =2A, I _B =0.2A | | | 1.2 | V |
| Turn ON Time | t _{on} | V _{CC} = 10V, I _C = 2A , I _{B1} =-I _{B2} =0.2A, R _L =5Ω | | | 1 | μS |
| Storage Time | t _{stg} | | | | 2.5 | μS |
| Fall Time | t _f | | | | 1 | μS |

CLASSIFICATION OF h_{FE(1)}

| Rank | O | Y | G |
|-------|---------|---------|---------|
| Range | 100-200 | 160-320 | 200-400 |