

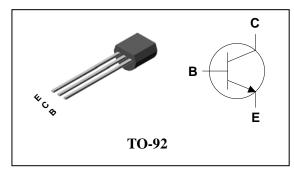
DN100

NPN Silicon Transistor

Features

- Extremely low collector-to-emitter saturation voltage (V_{CE(SAT)} = 0.15V Typ. @I_C/I_B=400mA/20mA)
- Suitable for low voltage large current drivers
- Complementary pair with DP100
- Switching Application

PIN Connection



Ordering Information

| Type NO. | Marking | Package Code | |
|----------|---------|--------------|--|
| DN100 | DN100 | TO-92 | |

Absolute maximum ratings

(Ta=25°C)

| Characteristic | Symbol | Ratings | Unit |
|---------------------------|------------------|---------|------|
| Collector-Base voltage | V_{CBO} | 15 | V |
| Collector-Emitter voltage | V_{CEO} | 12 | V |
| Emitter-Base voltage | V_{EBO} | 5 | V |
| Collector current | I _C | 1 | А |
| Collector dissipation | P _C | 625 | mW |
| Junction temperature | Tj | 150 | °C |
| Storage temperature | T _{stg} | -55~150 | °C |

Electrical Characteristics

(Ta=25°C)

| Characteristic | Symbol | Test Condition | Min. | Тур. | Max. | Unit |
|--------------------------------------|----------------------|---|------|------|------|------|
| Collector-Base breakdown voltage | BV _{CBO} | $I_C = 50 \mu A, I_E = 0$ | 15 | - | - | V |
| Collector-Emitter breakdown voltage | BV _{CEO} | $I_C=1$ mA, $I_B=0$ | 12 | - | - | V |
| Emitter-Base breakdown voltage | BV _{EBO} | $I_E = 50 \mu A, I_C = 0$ | 5 | - | - | V |
| Collector cut-off current | I _{CBO} | $V_{CB} = 12V, I_{E} = 0$ | - | - | 0.1 | μΑ |
| Emitter cut-off current | I _{EBO} | $V_{EB} = 5V$, $I_{C} = 0$ | - | - | 0.1 | μΑ |
| DC current gain | h _{FE1} | $V_{CE} = 1V, I_{C} = 100 \text{mA}$ | 200 | - | 450 | - |
| DC current gain | h _{FE2} | $V_{CE}=1V$, $I_{C}=1A$ | 70 | - | - | - |
| Collector-Emitter saturation voltage | V _{CE(sat)} | I _C =400mA, I _B =20mA | - | - | 0.25 | V |
| Base-Emitter saturation voltage | V _{BE(sat)} | I _C =400mA, I _B =20mA | - | - | 1.2 | V |
| Transition frequency | f _T | $V_{CE}=5V$, $I_{C}=50mA$ | - | 260 | - | MHz |
| Collector output capacitance | C _{ob} | $V_{CB}=10V$, $I_{E}=0$, $f=1MHz$ | - | 5 | _ | рF |

Electrical Characteristic Curves

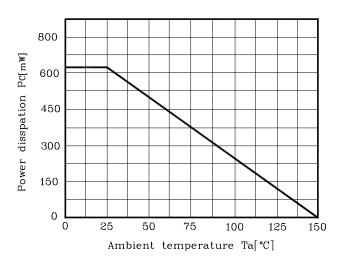


Fig. 3 h_{FE} - I_{C}

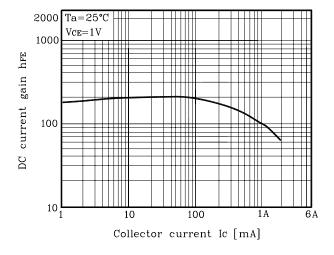


Fig. 2 I_{C} - V_{BE}

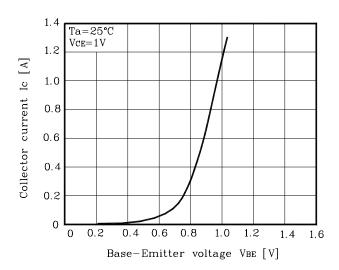
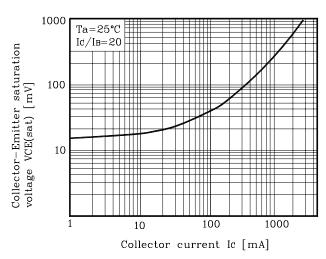
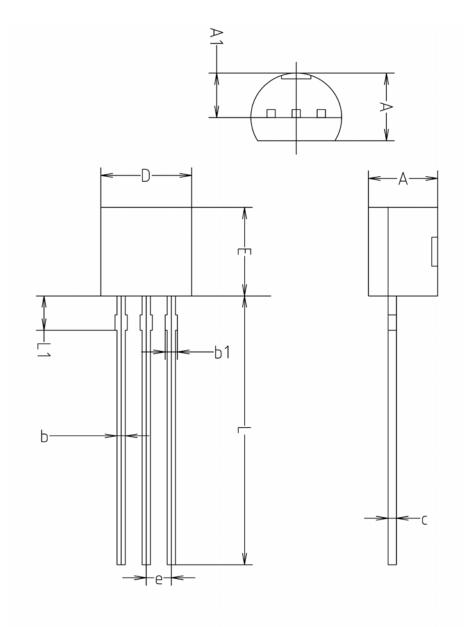


Fig. 4 $V_{CE(sat)}$. I_C



Outline Dimension



| | MILLMETERS(mm) | | | |
|--------|----------------|---------|---------|--|
| SYMBOL | MINIMUM | NOMINAL | MAXIMUM | |
| Α | 3.40 | 3.50 | 3.66 | |
| A1 | 2.46 | 2.51 | 2.59 | |
| b | 0.39 | 0.44 | 0.53 | |
| b1 | 0.39 | _ | 0.63 | |
| С | 0.35 | 0.42 | 0.47 | |
| D | 4.48 | 4.60 | 4.70 | |
| Ε | 4.48 | 4.60 | 4.70 | |
| е | 1.17 | 1.27 | 1.37 | |
| L | 13.70 | 14.00 | 14.77 | |
| L1 | 1.55 | 1.70 | 2.15 | |

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