

Features

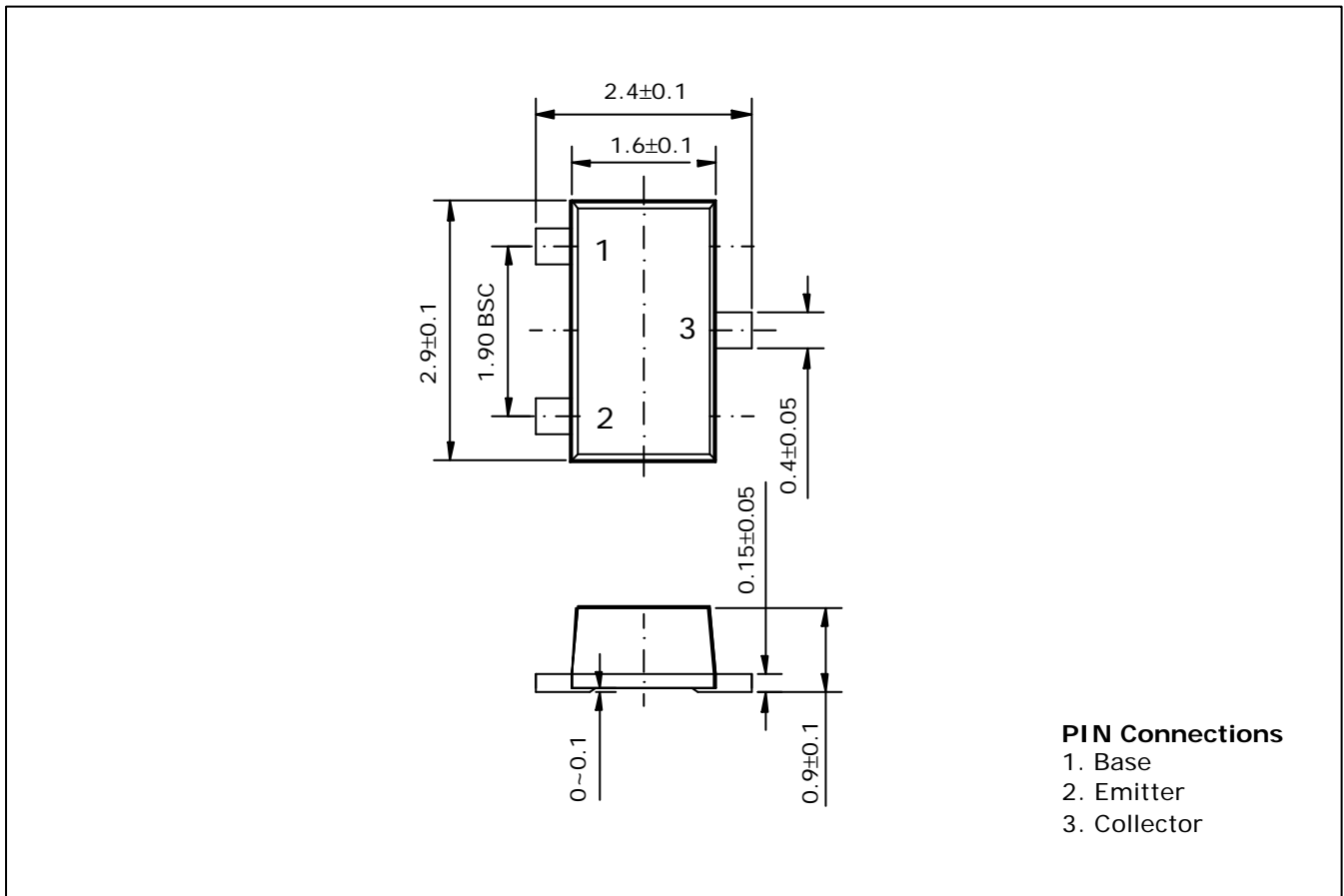
- Extremely low collector-to-emitter saturation voltage
($V_{CE(SAT)} = 0.15V$ Typ. @ $I_C / I_B = 400mA / 20mA$)
- Suitable for low voltage large current drivers
- Complementary pair with DP100S
- Switching Application

Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| DN100S | N03 | SOT-23F |

Outline Dimensions

unit : mm



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 | A |
| Collector dissipation | P_C | 200 | mW |
| Junction temperature | T_J | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ 150 | °C |

Electrical Characteristics

(Ta=25° C)

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|--------------------------------------|---------------|-----------------------------|------|------|------|---------|
| Collector-Base breakdown voltage | BV_{CBO} | $I_C=50\mu A, I_E=0$ | 15 | - | - | V |
| Collector-Emitter breakdown voltage | BV_{CEO} | $I_C=1mA, I_B=0$ | 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 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5V, I_C=0$ | - | - | 0.1 | μA |
| DC current gain | h_{FE1} | $V_{CE}=1V, I_C=100mA$ | 200 | - | 450 | - |
| | 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 | - | pF |

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

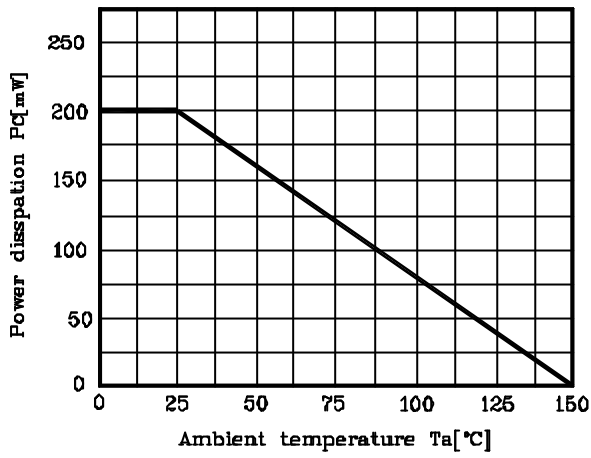


Fig. 2 $I_C - V_{BE}$

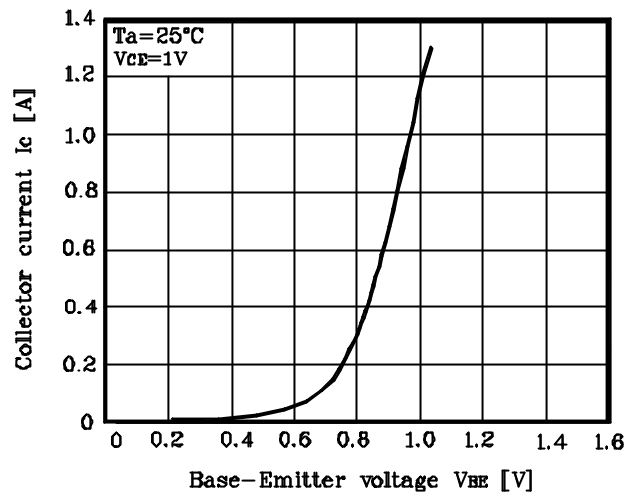


Fig. 3 $h_{FE} - I_C$

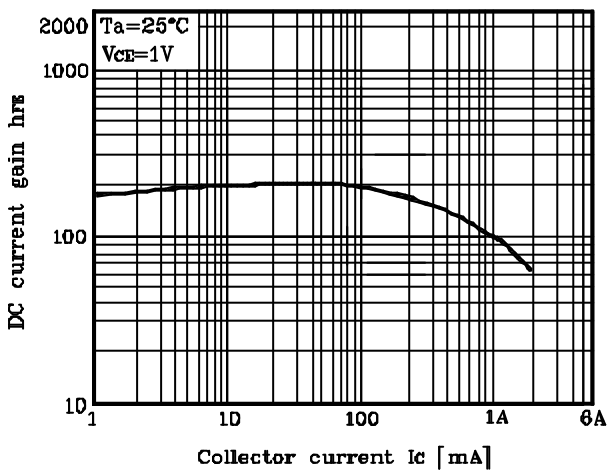


Fig. 4 $V_{CE(sat)} - I_C$

