

Features

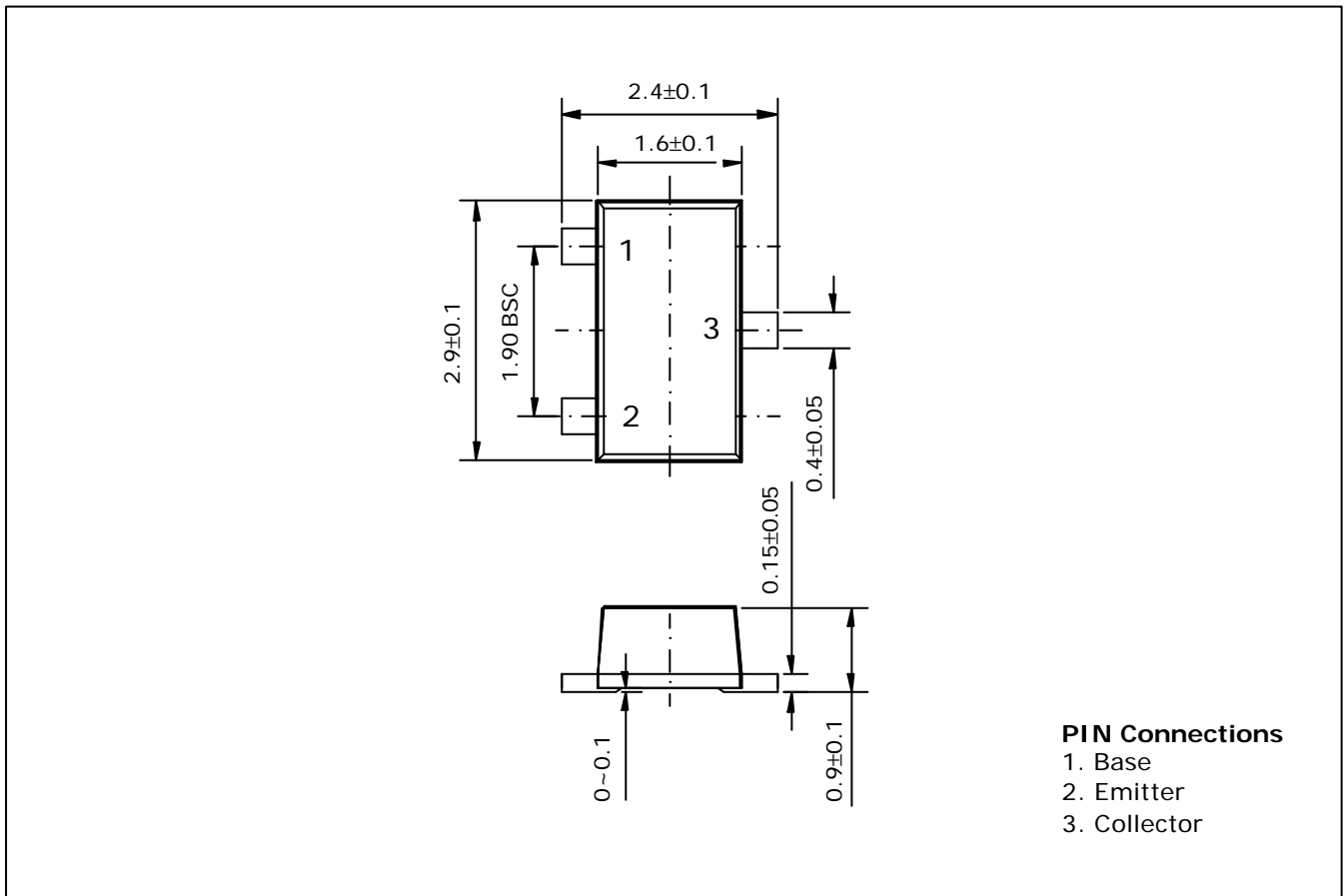
- Extremely low collector-to-emitter saturation voltage
($V_{CE(SAT)} = -0.08V$ Typ. @ $I_C/I_B = -100mA/-10mA$)
- Suitable for low voltage large current drivers
- Complementary pair with DN050S
- Switching Application

Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| DP050S | P02 | 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 | -500 | mA |
| 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} | $V_{CE} = -1V, I_C = -500mA$ | 70 | - | - | - |
| Collector-Emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100mA, I_B = -10mA$ | - | - | -0.25 | V |
| Base-Emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -100mA, I_B = -10mA$ | - | - | -1.2 | V |
| Transition frequency | f_T | $V_{CE} = -5V, I_C = -20mA$ | - | 100 | - | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | - | 8.0 | - | pF |

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

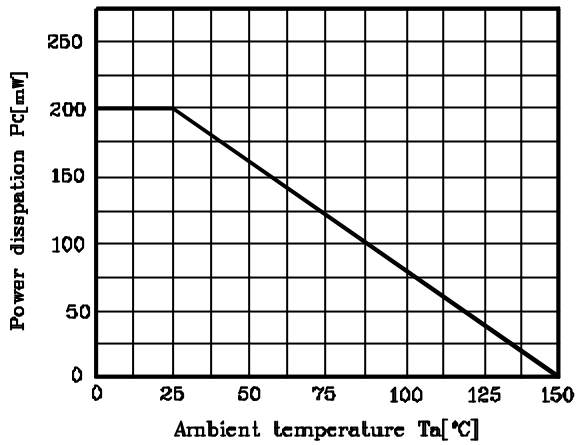


Fig. 2 $I_C - V_{BE}$

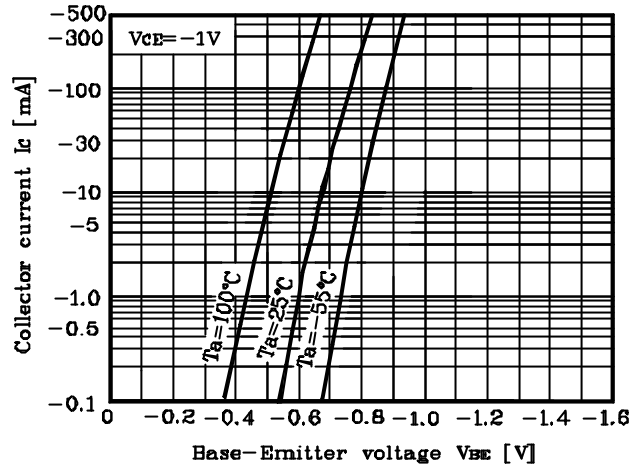


Fig. 3 $h_{FE} - I_C$

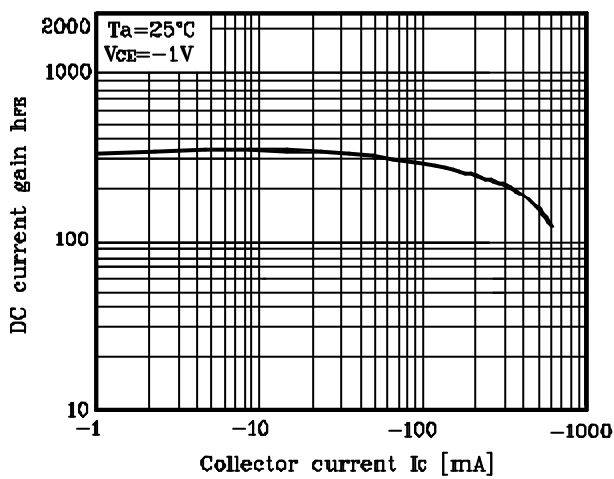


Fig. 4 $I_C - V_{CE}$

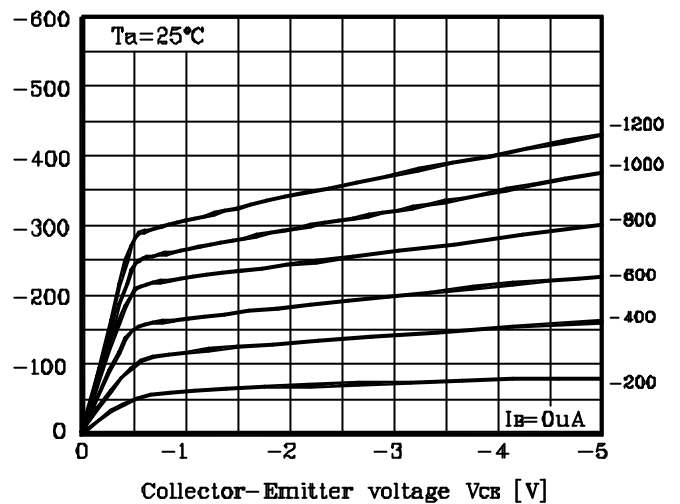


Fig. 5 $V_{CE(sat)} - I_C$

