

Description

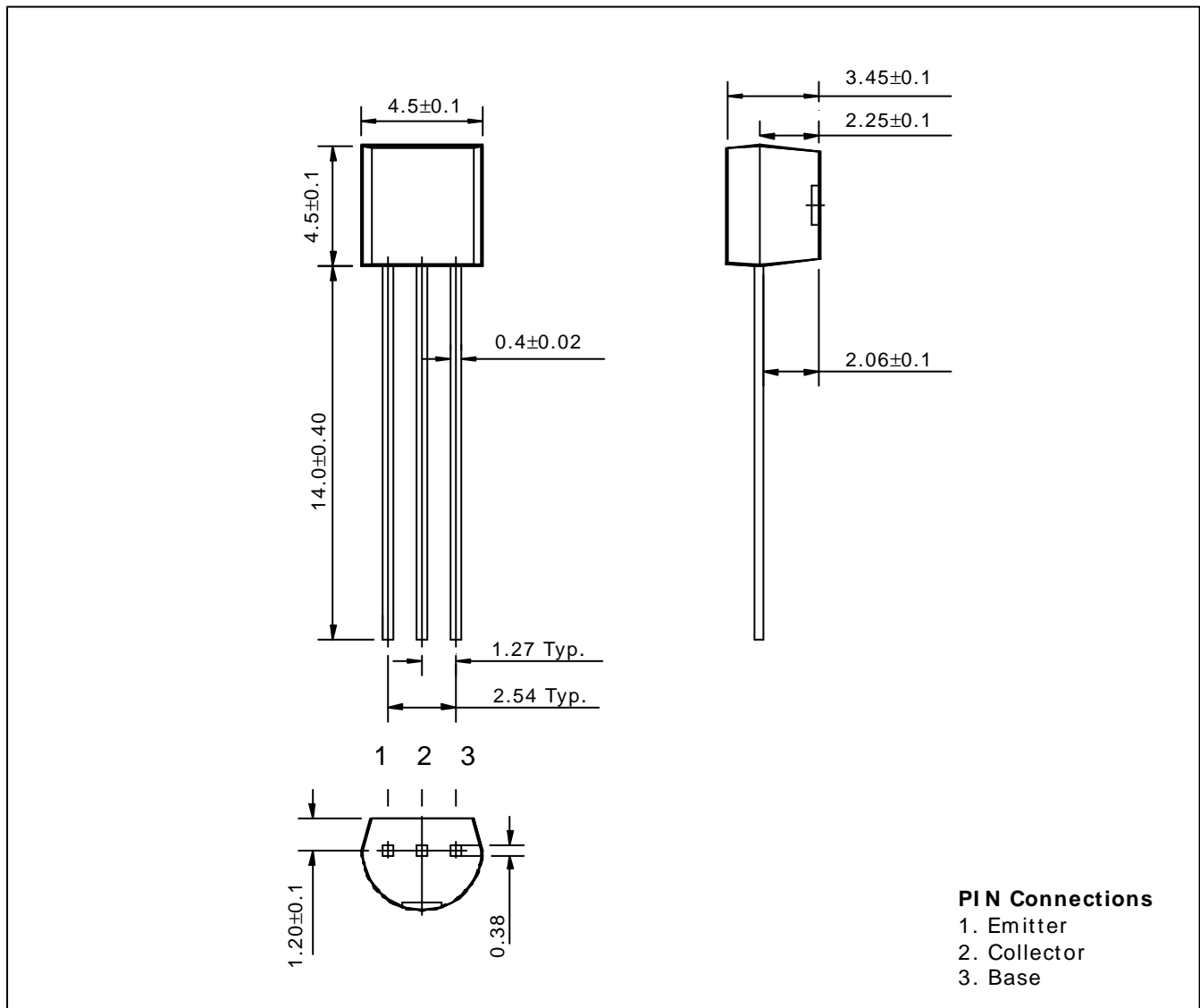
- Extremely low collector-to-emitter saturation voltage
($V_{CE(SAT)} = 0.2V$ Typ. @ $I_C/I_B = 3A/150mA$)
- Suitable for low voltage large current drivers
- Switching Application

Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| STD129 | STD129 | TO-92 |

Outline Dimensions

unit : mm



Absolute maximum ratings

(Ta=25° C)

| Characteristic | Symbol | Ratings | Unit |
|---------------------------|-----------|---------|------|
| Collector-Base voltage | V_{CBO} | 40 | V |
| Collector-Emitter voltage | V_{CEO} | 15 | V |
| Emitter-Base voltage | V_{EBO} | 7 | V |
| Collector current | I_C | 5 | A |
| Collector dissipation | P_C | 625 | 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} | $I_C=50\mu A, I_E=0$ | 40 | - | - | V |
| Collector-Emitter breakdown voltage | BV_{CEO} | $I_C=1mA, I_B=0$ | 15 | - | - | V |
| Emitter-Base breakdown voltage | BV_{EBO} | $I_E=50\mu A, I_C=0$ | 7 | - | - | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=30V, I_E=0$ | - | - | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5V, I_C=0$ | - | - | 0.1 | μA |
| DC current gain | h_{FE1} | $V_{CE}=2V, I_C=0.5A$ | 160 | - | 320 | - |
| | h_{FE2} | $V_{CE}=2V, I_C=3A$ | 40 | - | - | - |
| Collector-Emitter saturation voltage | $V_{CE(sat)}$ | $I_C=3A, I_B=150mA$ | - | - | 0.3 | V |
| Transition frequency | f_T | $V_{CE}=6V, I_E=-50mA$ | - | 150 | - | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=20V, I_E=0, f=1MHz$ | - | - | 50 | pF |

Electrical Characteristic Curves

Fig. 1 $P_c - T_a$

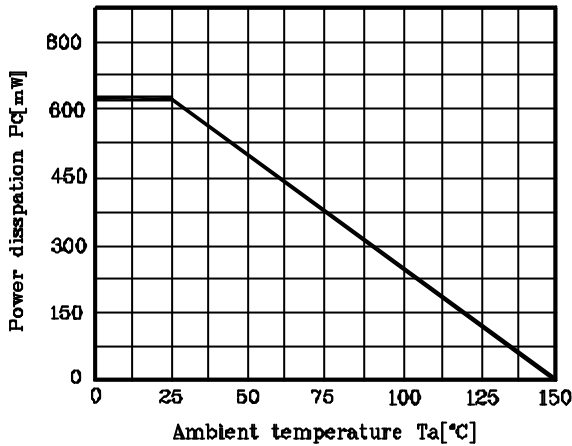


Fig. 2 $h_{FE} - I_c$

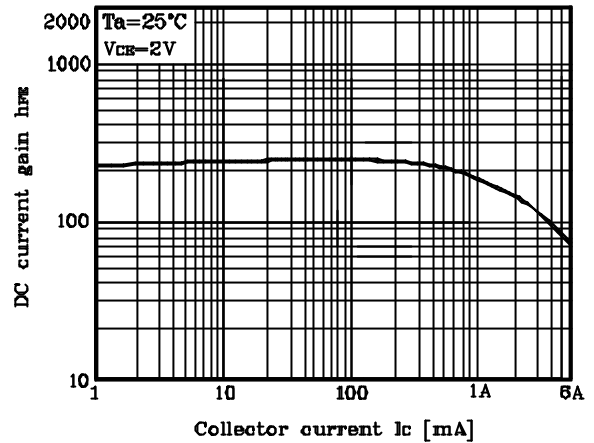


Fig. 3 $V_{CE(sat)} - I_c$

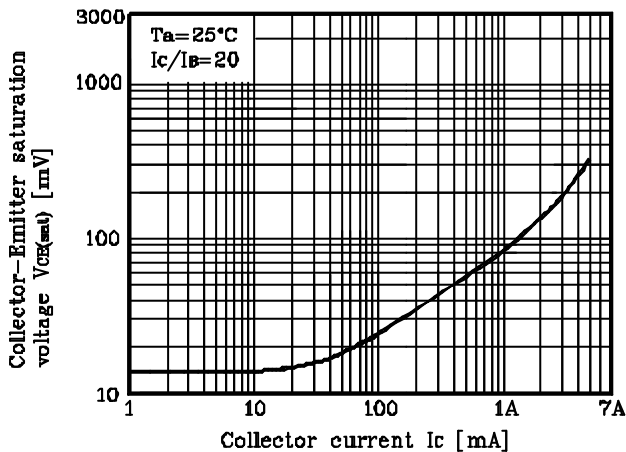


Fig. 4 $f_T - I_c$

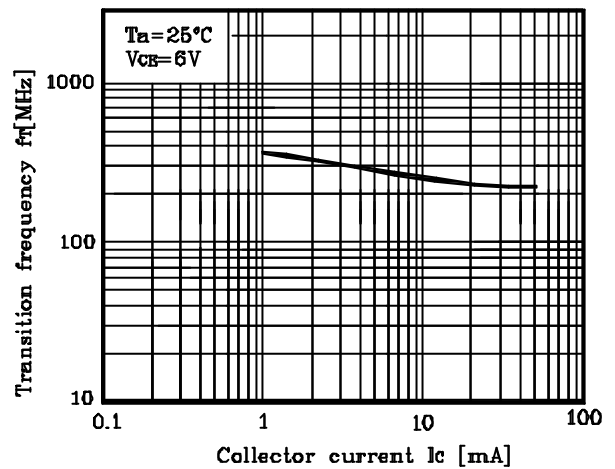


Fig. 5 $C_{ob} - V_{CB}$

