

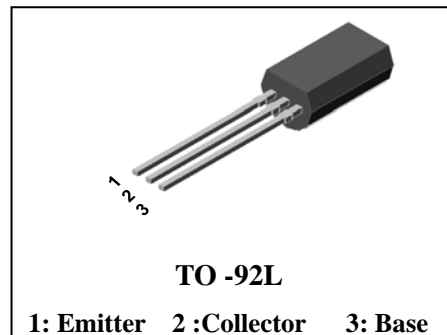
Applications

- Power amplifier application
- High current switching application

Features

- High current : $I_C=2A$
- Complementary pair with STA3250L

PIN Connection



Ordering Information

| Type NO. | Marking | Package Code |
|----------|----------------|--------------|
| STC4250L | STC4250 YWW | TO-92L |

HW2: DEVICE CODE, YWW(Y : Year code, WW : Weekly code)

Absolute Maximum Ratings

[Ta=25°C]

| Characteristic | Symbol | Rating | Unit |
|-----------------------------|-----------|---------|------|
| Collector-base voltage | V_{CBO} | 50 | V |
| Collector-emitter voltage | V_{CEO} | 50 | V |
| Emitter-base voltage | V_{EBO} | 5 | V |
| Collector current | I_C | 2 | A |
| Base current | I_B | 0.4 | A |
| Collector Power dissipation | P_C | 1 | W |
| | P_C^* | 2 | W |
| Junction temperature | T_J | 150 | °C |
| Storage temperature range | T_{stg} | -55~150 | °C |

* Device mounted on ceramic substrate (250mm² x 0.8t)

Electrical Characteristics

[Ta=25°C]

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit | |
|--------------------------------------|---------------|-----------------------------|------|------|------|---------|----|
| Collector-emitter breakdown voltage | BV_{CEO} | $I_C=10mA, I_B=0$ | 50 | - | - | V | |
| Collector cut-off current | I_{CBO} | $V_{CB}=50V, I_E=0$ | - | - | 0.1 | μA | |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5V, I_C=0$ | - | - | 0.1 | μA | |
| DC current gain | h_{FE} | $V_{CE}=2V, I_C=0.5A^*$ | 120 | - | 240 | | |
| | h_{FE} | $V_{CE}=2V, I_C=1.5A^*$ | 40 | - | - | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=1A, I_B=0.05A^*$ | - | - | 0.35 | V | |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=1A, I_B=0.05A^*$ | - | - | 1.2 | V | |
| Transition frequency | f_T | $V_{CE}=2V, I_C=50mA$ | - | 240 | - | MHz | |
| Collector output capacitance | C_{ob} | $V_{CB}=10V, I_E=0, f=1MHz$ | - | 15 | - | pF | |
| Switching Time | Turn-on Time | t_{on} | | - | 100 | - | nS |
| | Storage Time | t_{stg} | | - | 300 | - | |
| | Fall Time | t_f | | - | 50 | - | |

*: Pulse test: $t_p \leq 300\mu s$, Duty cycle $\leq 2\%$

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

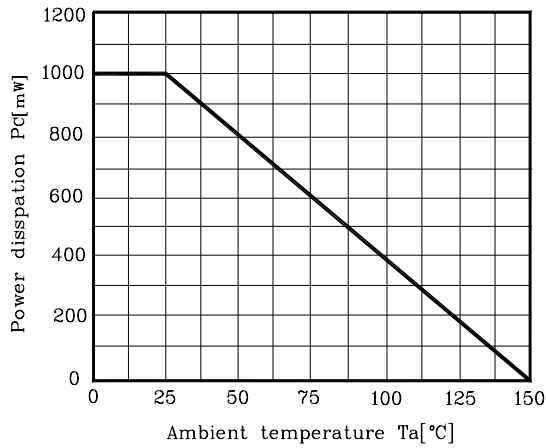


Fig. 2 $I_C - V_{BE}$

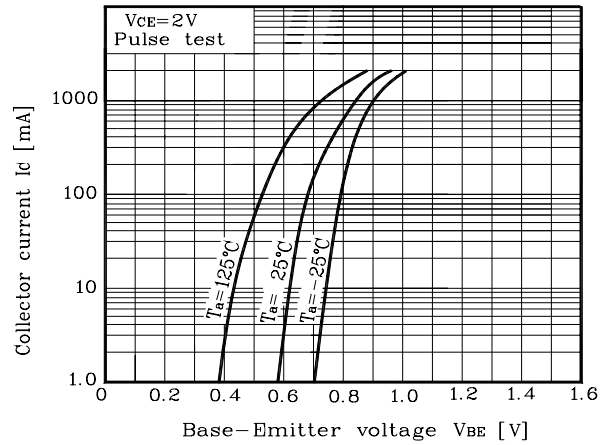


Fig. 3 $I_C - V_{CE}$

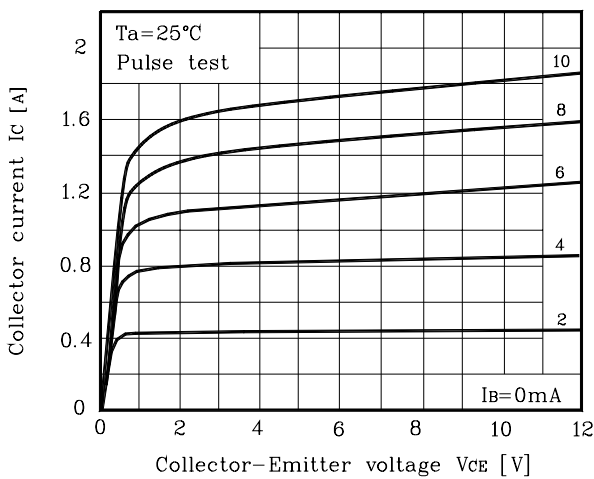


Fig. 4 $h_{FE} - I_C$

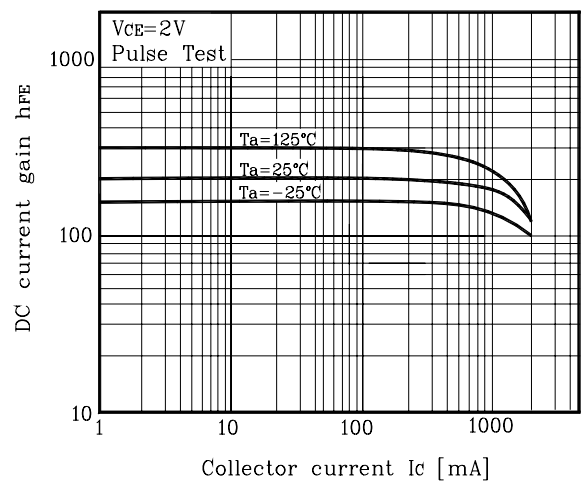


Fig. 5 $V_{CE(sat)} - I_C$

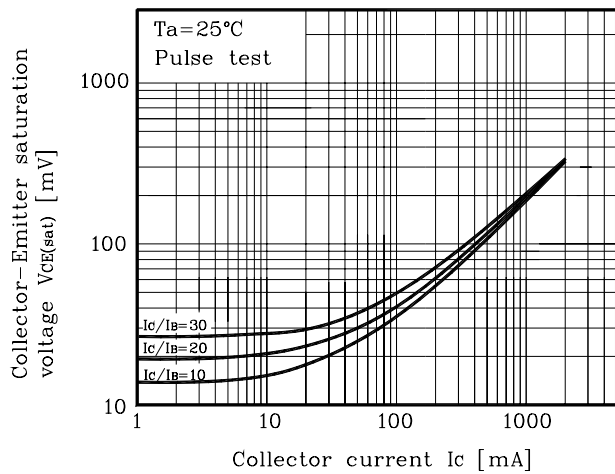
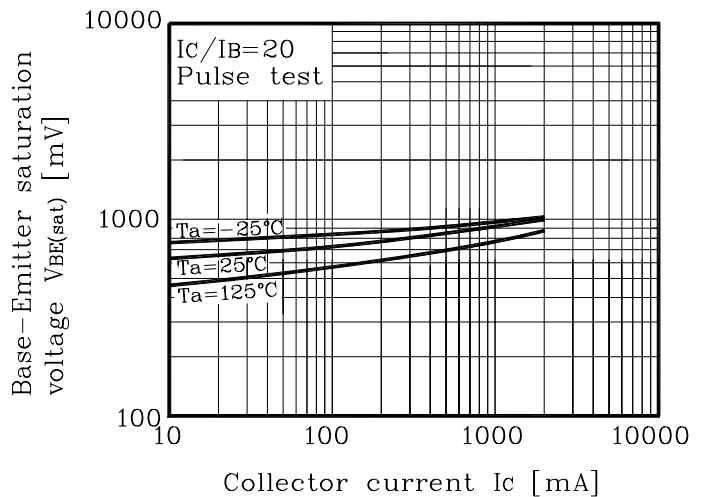


Fig. 6 $V_{BE(sat)} - I_C$



Electrical Characteristic Curves

Fig. 7 $C_{Ob} - V_{CB}$

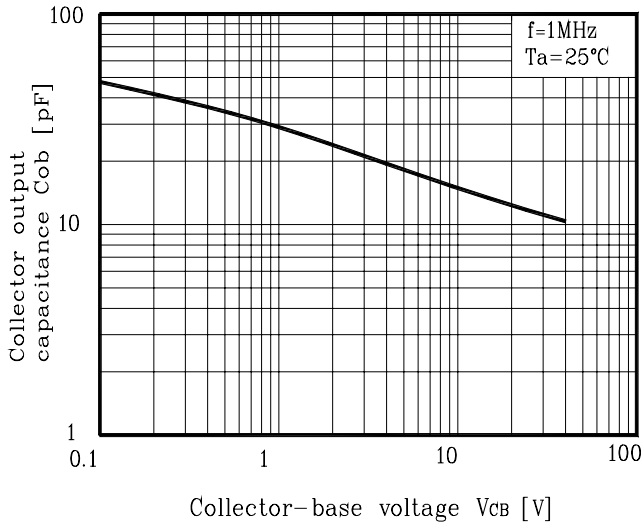
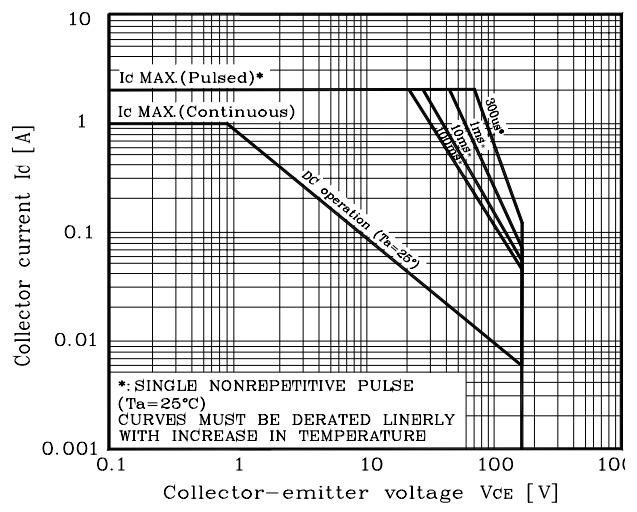
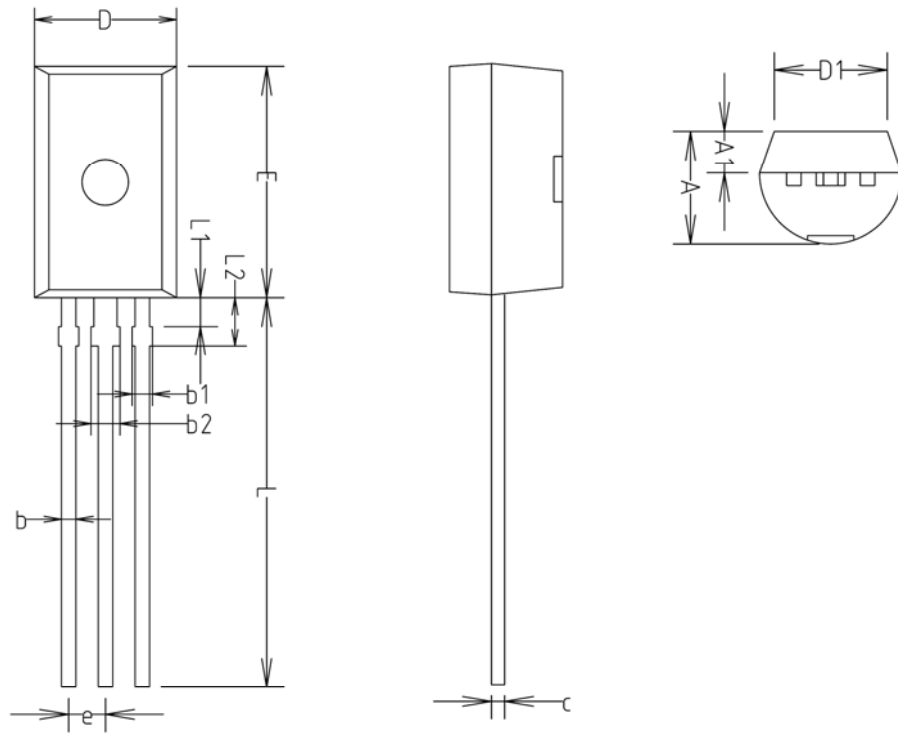


Fig. 8 Safe Operating Area



Outline Dimension(mm)



| SYMBOL | MILLIMETERS(mm) | | | NOTE |
|--------|-----------------|---------|---------|------|
| | MINIMUM | NOMINAL | MAXIMUM | |
| A | 3.70 | 3.90 | 4.10 | |
| A1 | 1.25 | 1.45 | 1.65 | |
| b | 0.40 | 0.50 | 0.60 | |
| b1 | — | — | 0.70 | |
| b2 | — | — | 1.00 | |
| c | 0.35 | 0.45 | 0.55 | |
| D | 4.70 | 4.90 | 5.10 | |
| D1 | 3.70 | 3.90 | 4.10 | |
| E | 7.80 | 8.00 | 8.20 | |
| e | 1.27 TYP | | | |
| L | 13.10 | 13.50 | 13.90 | |
| L1 | 0.90 | 1.00 | 1.10 | |
| L2 | 1.50 | 1.70 | 1.90 | |

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