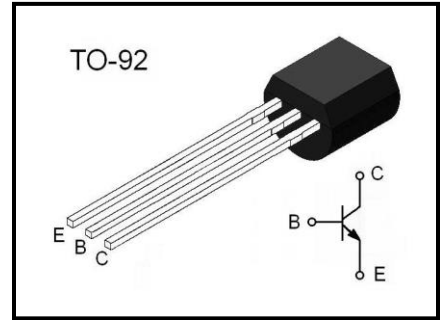


NPN Plastic-Encapsulate Transistors



High Voltage Transistor

- ◆Collector-Emitter Voltage: $V_{CE0}=350V$
- ◆Collector Dissipation: $P_{C(max)}=625mW$
- ◆Complement to 2N6520

| Marking Code | |
|--------------|------------|
| 2N6517 | YFW 2N6517 |

Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Value | Unit |
|-----------------------------|------------|----------|------|
| Collector-base voltage | BV_{CBO} | 350 | V |
| Collector-emitter voltage | BV_{CEO} | 350 | V |
| Emitter-base voltage | BV_{EBO} | 6 | V |
| Collector current | I_C | 500 | mA |
| Collector power dissipation | P_D | 625 | mW |
| Junction temperature | T_J | 150 | °C |
| Storage temperature | T_{STG} | -55~+150 | °C |

Electrical Characteristics (Ta=25°C)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|--------------------------------------|---|---------------|----------------------|-----|-----------------|------|
| Collector-base breakdown voltage | $I_C = 100\mu A, I_E = 0$ | BV_{CBO} | 350 | | | V |
| Collector-emitter breakdown voltage | $I_C = 1mA, I_B = 0$ | BV_{CEO} | 350 | | | V |
| Emitter-base breakdown voltage | $I_E = 100\mu A, I_C = 0$ | BV_{EBO} | 6 | | | V |
| Collector cut-off current | $V_{CB} = 250V, I_E = 0$ | I_{CBO} | | | 50 | nA |
| Emitter cut-off current | $V_{EB} = 5V, I_C = 0$ | I_{EBO} | | | 50 | nA |
| DC current gain | $V_{CE} = 10V, I_B = 10mA$ $V_{CE} = 10V, I_B = 30mA$ $V_{CE} = 10V, I_B = 50mA$ $V_{CE} = 10V, I_B = 100mA$ | h_{FE} | 30 30 20 10 | | 200 200 | |
| Collector-emitter saturation voltage | $I_C = 10mA, I_B = 1mA$ $I_C = 30mA, I_B = 3mA$ $I_C = 50mA, I_B = 5mA$ | $V_{CE(sat)}$ | | | 0.3 0.5 1 | V |
| Base-emitter saturation voltage | $I_C = 10mA, I_B = 1mA$ $I_C = 30mA, I_B = 3mA$ | $V_{BE(sat)}$ | | | 0.75 0.9 | V |
| Base-emitter on Voltage | $V_{CE} = 10V, I_C = 100mA$ | $V_{BE(on)}$ | | | 2 | V |
| Transition frequency* | $V_{CE} = 20V, I_B = 10mA$ | f_T | 40 | | 200 | MHz |
| Output capacitance | $V_{CE} = 20V, I_E = 0, f = 1MHz$ | C_{ob} | | | 6 | pF |

* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%

Typical Characteristics

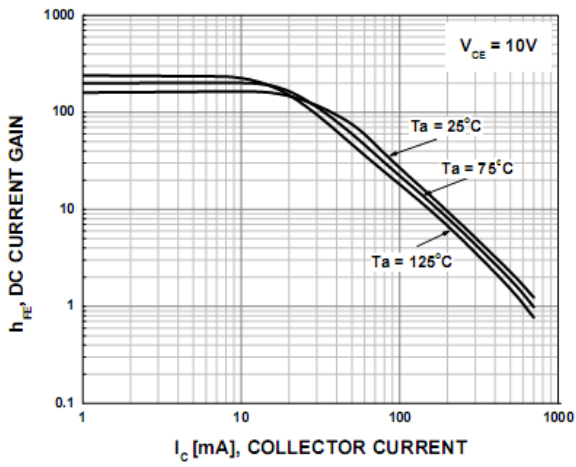


Figure 1. DC current Gain

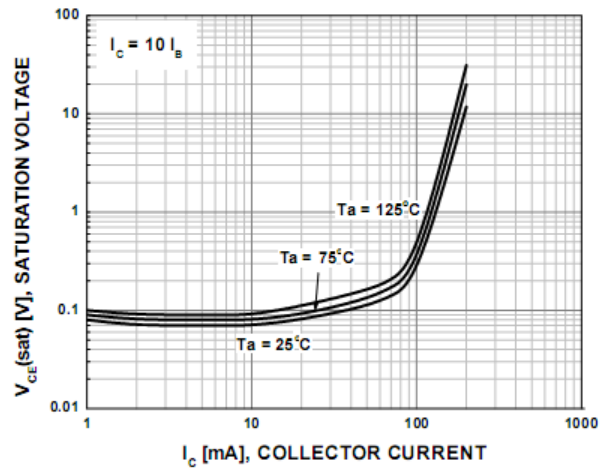


Figure2. Collector-Emitter Voltage

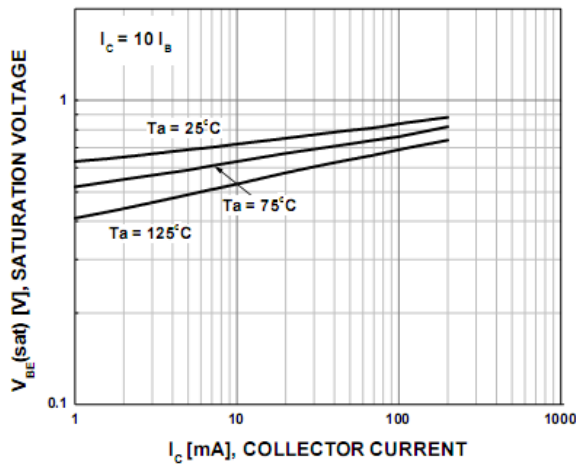


Figure 3. Saturation Voltage

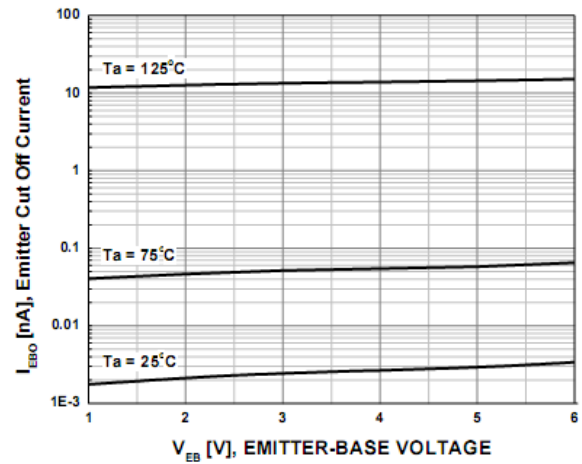


Figure 4. Emitter Cut Off Current

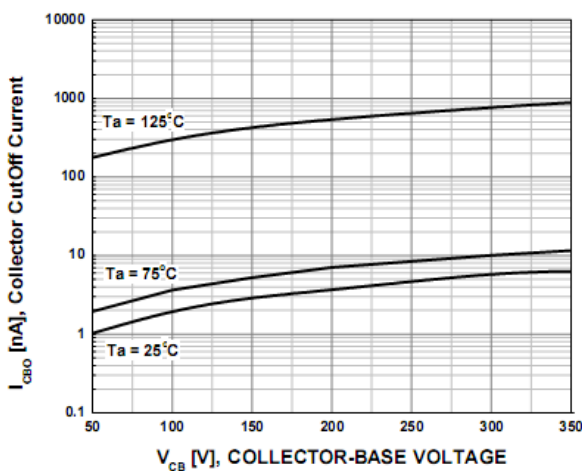


Figure 5. Collector CutOff Current

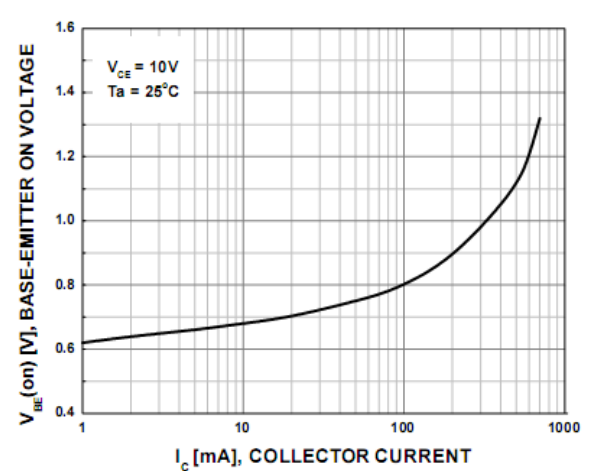


Figure 6. Base-Emitter On Voltage

Typical Characteristics

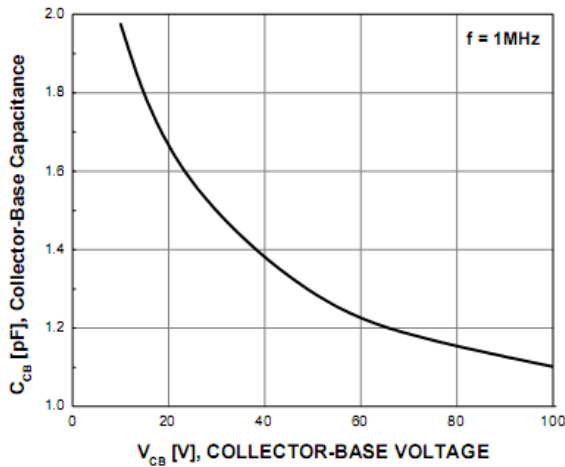


Figure 7. Output Capacitance

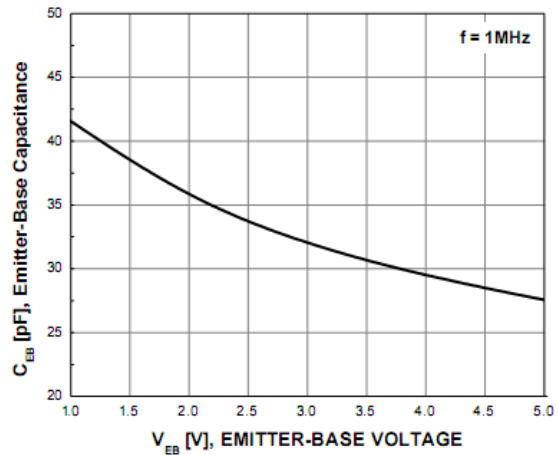


Figure 8. Input Capacitance

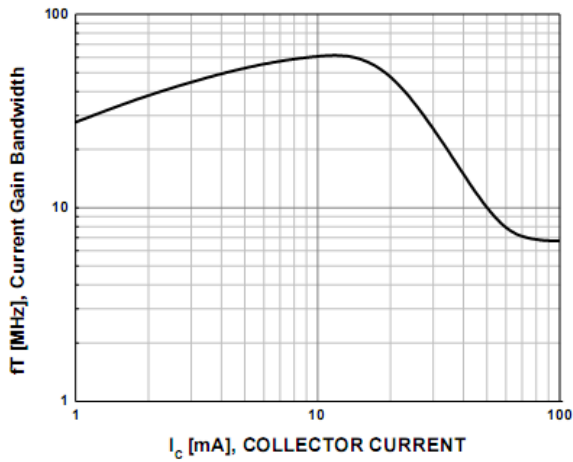


Figure 9. Current Gain Bandwidth Product

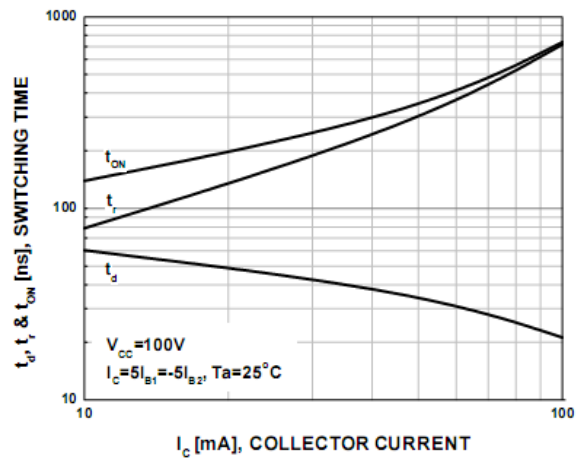


Figure 10. Resistive Load Switching

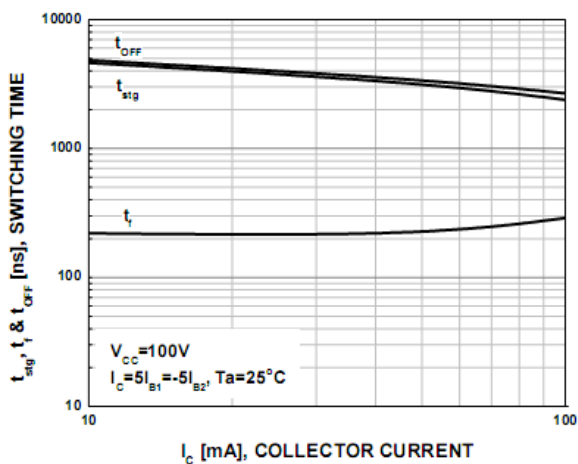


Figure 11. Resistive Load Switching

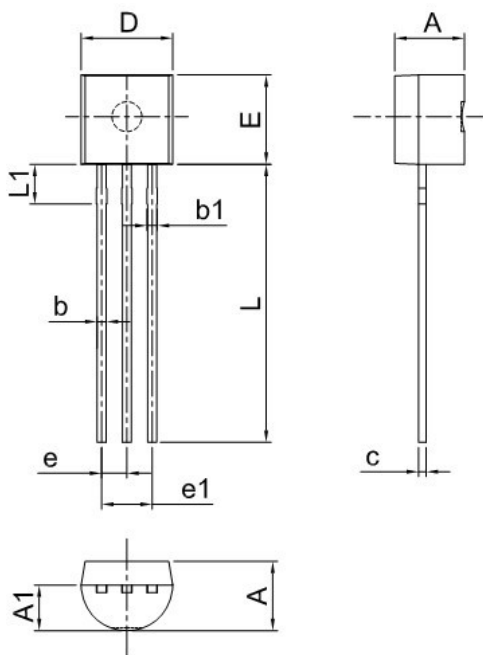
Ordering information

| Package | Packing Description | Base Quantity |
|---------|---------------------|---------------|
| TO-92 | Bulk | 1000pcs/Bag |
| | Tape | 2000pcs/Box |

Package Dimensions

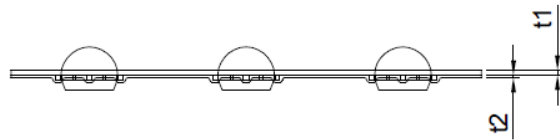
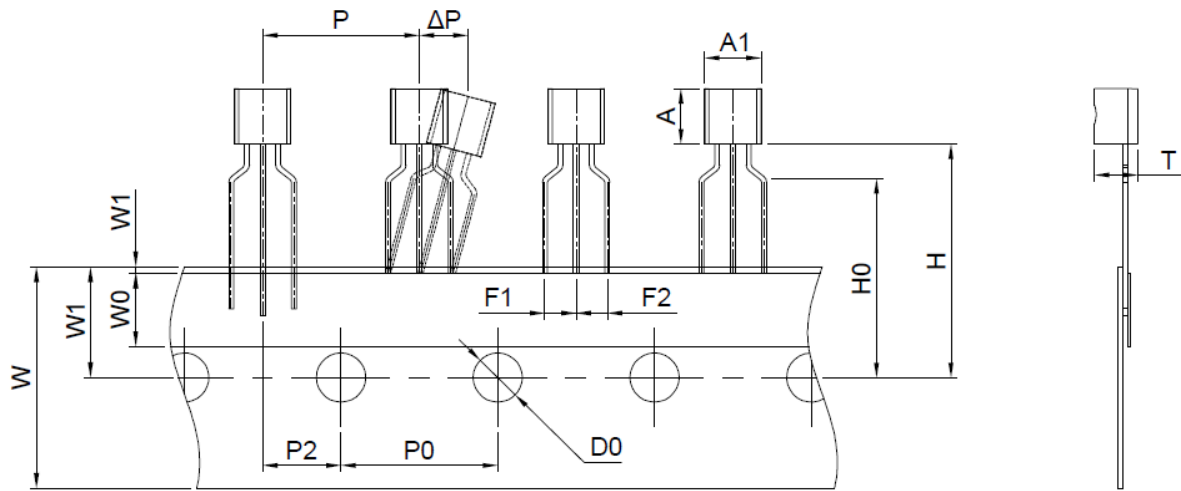
TO-92

| Dim | Millimeter | | Inches | |
|-----|------------|-------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 3.30 | 3.70 | 0.130 | 0.146 |
| A1 | 2.30 | 2.70 | 0.091 | 0.106 |
| b | 0.40 | 0.50 | 0.016 | 0.020 |
| b1 | 0.50 | 0.70 | 0.020 | 0.028 |
| c | 0.35 | 0.45 | 0.014 | 0.018 |
| D | 4.45 | 4.70 | 0.175 | 0.185 |
| E | 4.40 | 4.65 | 0.173 | 0.183 |
| e | 1.17 | 1.37 | 0.046 | 0.054 |
| e1 | 2.34 | 2.64 | 0.092 | 0.104 |
| L | 13.50 | 14.50 | 0.531 | 0.571 |
| L1 | 1.80 | 2.20 | 0.071 | 0.087 |

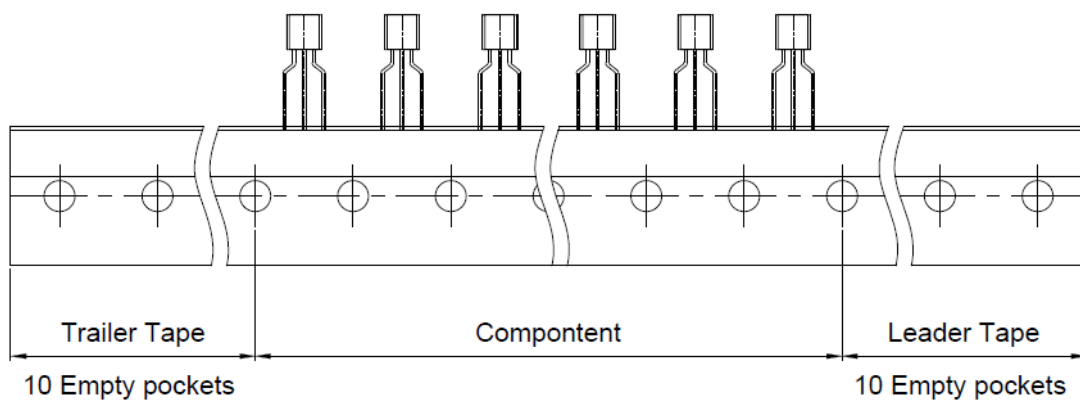


Taping Dimensions

TO-92



| Dimensions are in millimeter | | | | | | | | |
|------------------------------|-----|--------|------|------|------|------|------|------|
| A | A1 | T | P | P0 | P2 | F1 | F2 | W |
| 4.6 | 4.6 | 3.5 | 12.7 | 12.7 | 6.35 | 2.54 | 2.54 | 18.0 |
| W0 | W1 | W2 | H | H0 | D0 | t1 | T2 | ΔP |
| 6.0 | 9.0 | 1.0Max | 19.0 | 18.0 | 4.0 | 0.4 | 0.2 | 0 |



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