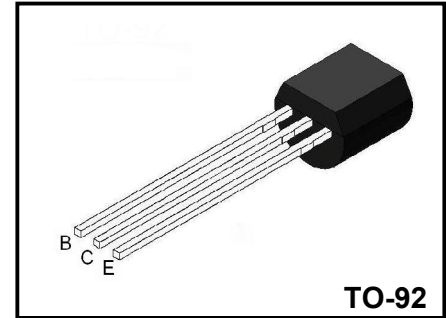


**NPN Plastic-Encapsulate Transistors**

**High Voltage Mode Application**

High speed Switching



Marking :YFW13003B

**Absolute Maximum Rating (Ta=25°C)**

| Parameter                   | Symbol     | Value   | Unit |
|-----------------------------|------------|---------|------|
| Collector-Base Voltage      | $BV_{CBO}$ | 700     | V    |
| Collector-Emitter Voltage   | $BV_{CEO}$ | 400     | V    |
| Emitter-Base Voltage        | $B_{VEBO}$ | 9       | V    |
| Collector Current           | $I_C$      | 0.5     | A    |
| Collector Power Dissipation | $P_C$      | 0.9     | W    |
| Junction Temperature        | $T_j$      | 150     | °C   |
| Storage Temperature         | $T_{stg}$  | -55~150 | °C   |

**Electrical Characteristics (Ta=25°C)**

| Parameter                             | Symbol        | Conditions  | Value |     |     | Unit    |
|---------------------------------------|---------------|---|-------|-----|-----|---------|
|                                       |               |   | Min   | Typ | Max |         |
| Collector-base breakdown voltage      | $BV_{CBO}$    | $I_C = 100\mu A, I_E = 0$   | 700   |     |     | V       |
| Collector-emitter breakdown voltage   | $BV_{CEO}$    | $I_C = 1mA, I_B = 0$  | 400   |     |     | V       |
| Emitter-base breakdown voltage        | $BV_{EBO}$    | $I_E = 100\mu A, I_C = 0$   | 9     |     |     | V       |
| Collector cut-off current             | $I_{CBO}$     | $V_{CB} = 700V, I_E = 0$  |       |     | 100 | $\mu A$ |
| Collector cut-off current             | $I_{CEO}$     | $V_{CE} = 400V, I_B = 0$  |       |     | 200 | $\mu A$ |
| Emitter cut-off current               | $I_{EBO}$     | $V_{EB} = 9V, I_C = 0$  |       |     | 100 | $\mu A$ |
| DC current gain*                      | $h_{FE}$      | $V_{CE} = 5, I_C = 0.1A$  | 10    |     | 40  |         |
| Collector-emitter saturation voltage* | $V_{CE(sat)}$ | $I_C = 0.5A, I_B = 0.1A$  |       |     | 0.5 | V       |
| Base -emitter saturation voltage*     | $V_{BE(sat)}$ | $I_C = 0.5A, I_B = 0.1A$  |       |     | 1.2 | V       |
| Transition frequency                  | $f_T$         | $V_{CE} = 10V, I_B = 0.1A$  | 8     |     |     | MHz     |
| Output Capacitance                    | $C_{ob}$      | $V_{CE} = 10V, f = 1MHz$  |       | 21  |     | pF      |
| Turn On Time                          | $t_{on}$      | $V_{CC} = 10V, I_C = 0.1A$<br>$I_{B1} = 0.2A, I_{B2} = -0.1A$<br>$RL = 125\Omega$ |       |     | 1.1 | $\mu s$ |
| Storage Time                          | $t_{stg}$     |   |       |     | 4.0 | $\mu s$ |
| Fall Time                             | $t_f$         |   |       |     | 0.7 | $\mu s$ |

\* Pulse Test: Pulse Width=5ms, Duty Cycle≤10%

Typical Characteristics

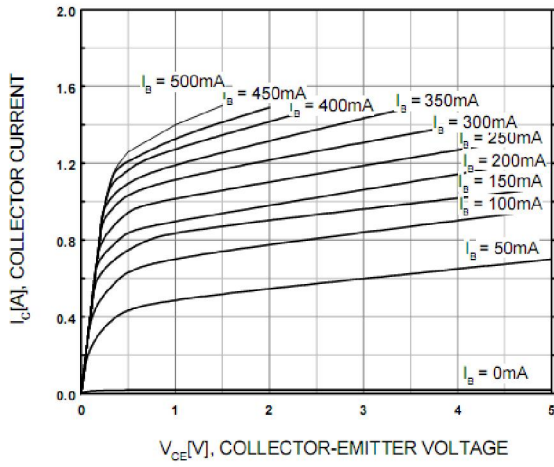


Figure 1. Static Characteristic

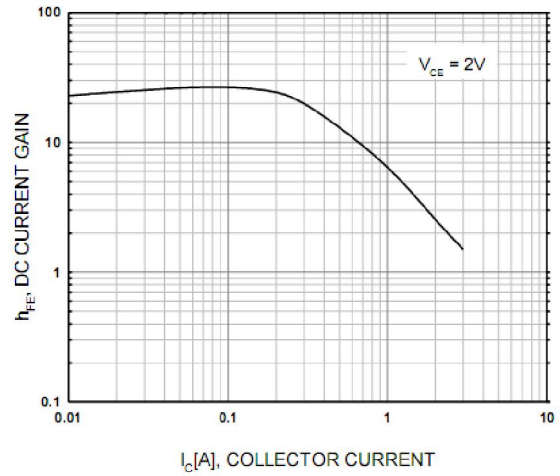


Figure 2. DC current Gain

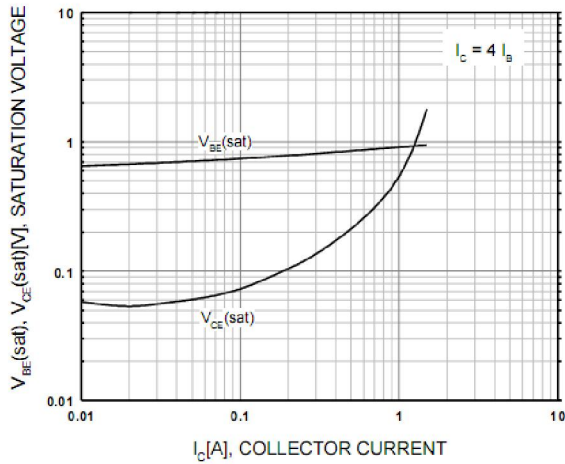


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

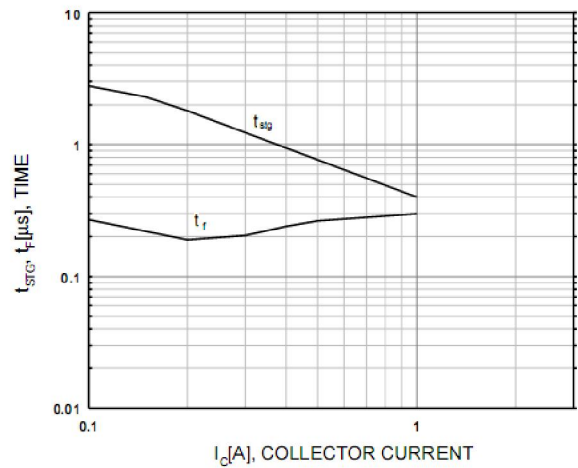


Figure 4. Switching Time

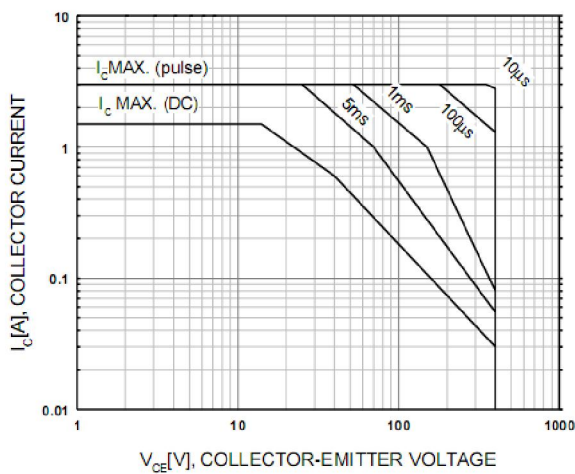


Figure 5. Safe Operating Area

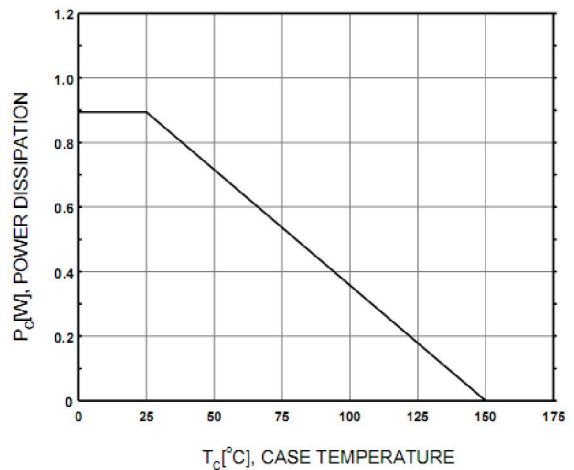


Figure 6. Power Derating

Package Dimensions

TO-92

| Symbol | 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 |

| Package | Packing Method | Pack Quantity |
|---------|----------------|---------------|
| TO-92   | Bulk           | 1000pcs/Bag   |
| TO-92   | Tape           | 2000pcs/Box   |

单击下面可查看定价，库存，交付和生命周期等信息

[>>YFW\(佑风微\)](#)