

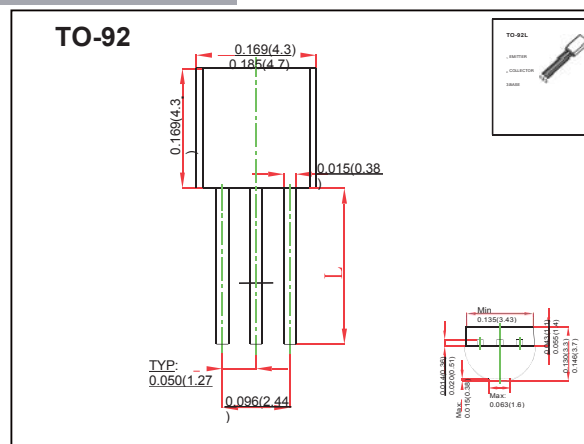
TO-92 Plastic-Encapsulate Transistors

FEATURES

- power switching applications
- TRANSISTOR(NPN)

MECHANICAL DATA

- Case style: TO-92 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------|-------------------------------|-----------|------|
| V_{CBO} | Collector-Base Voltage | 700 | V |
| V_{CEO} | Collector-Emitter Voltage | 400 | V |
| V_{EBO} | Emitter-Base Voltage | 9 | V |
| I_C | Collector Current -Continuous | 1.5 | A |
| P_C | Collector Power Dissipation | 0.9 | W |
| T_J | Junction Temperature | 150 | °C |
| T_{stg} | Storage Temperature | -55 ~ 150 | °C |

ORDERING INFORMATION

| Part Number | Package | Packing Method | Pack Quantity |
|--------------|---------|----------------|---------------|
| 3DD13003B | TO-92 | Bulk | 1000pcs/Bag |
| 3DD13003B-TA | TO-92 | Tape | 2000pcs/Box |

Electrical Specification($T_A=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | | | |
|--------------------------------------|----------------|--|-----|-----|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=1\text{mA}, I_E=0$ | 700 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=10\text{mA}, I_B=0$ | 400 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=1\text{mA}, I_C=0$ | 9 | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=700\text{V}, I_E=0$ | | 100 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE}=400\text{V}, I_B=0$ | | 50 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=7\text{V}, I_C=0$ | | 10 | μA |
| DC current gain | h_{FE} | $V_{CE}=10\text{V}, I_C=0.4\text{A}$ | 20 | 40 | |
| Collector-emitter saturation voltage | $V_{CE(sat)1}$ | $I_C=1.5\text{A}, I_B=0.5\text{A}$ | | 3 | V |
| | $V_{CE(sat)2}$ | $I_C=0.5\text{A}, I_B=0.1\text{A}$ | | 0.8 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=0.5\text{A}, I_B=0.1\text{A}$ | | 1 | V |
| Transition Frequency | f_T | $V_{CE}=10\text{V}, I_C=100\text{mA}, f=1\text{MHz}$ | 4 | | MHz |
| Fall time | t_f | $I_C=1\text{A}$ | | 0.7 | μs |
| Storage time | t_s | $I_{B1}=-I_{B2}=0.2\text{A}$ | | 4 | μs |

CLASSIFICATION OF h_{FE}

| Rank | | | | |
|-------|-------|-------|-------|-------|
| Range | 20-25 | 25-30 | 30-35 | 35-40 |

MARKING: 13003B

RATINGS AND CHARACTERISTIC CURVES

Static Characteristic

