



Micro Commercial Components

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MJE13002

Features

- Capable of 1.25Watts of Power Dissipation.
- Collector-current 1.0A
- Collector-base Voltage 600V
- Operating and storage junction temperature range: -55°C to +150°C
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Marking: 3DD13002

NPN Silicon Plastic-Encapsulate Transistor

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Max | Units |
|----------------------------|---|-----|-----|---------|
| OFF CHARACTERISTICS | | | | |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage ($I_C=1.0mA, I_B=0$) | 400 | | Vdc |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage ($I_C=100\mu A, I_E=0$) | 600 | | Vdc |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage ($I_E=100\mu A, I_C=0$) | 6.0 | | Vdc |
| I_{CBO} | Collector Cutoff Current ($V_{CB}=600Vdc, I_E=0$) | | 100 | μA |
| I_{EBO} | Emitter Cutoff Current ($V_{EB}=6.0Vdc, I_C=0$) | | 100 | μA |

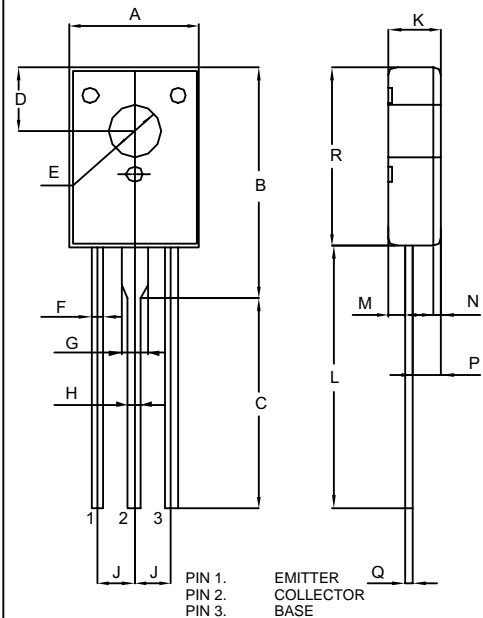
ON CHARACTERISTICS

| | | | | |
|---------------|---|-----|-----|-----|
| $h_{FE(1)}$ | DC Current Gain ($I_C=100mA, V_{CE}=10Vdc$) | 8.0 | 60 | |
| $h_{FE(2)}$ | DC Current Gain ($I_C=200mA, V_{CE}=10Vdc$) | 9.0 | 40 | |
| $h_{FE(3)}$ | DC Current Gain ($I_E=10mA, V_{CE}=10Vdc$) | 6.0 | | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage ($I_C=200mA, I_B=40mA$) | | 0.8 | Vdc |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage ($I_C=200mA, I_B=40mA$) | | 1.1 | Vdc |

SMALL-SIGNAL CHARACTERISTICS

| | | | | |
|-------|---|---------------------------------------|-----|---------|
| f_T | Transistor Frequency ($I_C=100mA, V_{CE}=10Vdc, f=1.0MHz$) | 5.0 | | MHz |
| t_F | Fall Time | | 0.5 | μS |
| t_S | Storage Time | $V_{CC}=100V, I_C=1.0A, I_B=I_C=0.2A$ | 2.5 | μS |

TO-126



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|-------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.30 | 0.33 | 7.70 | 8.30 | |
| B | | 0.56 | | 14.20 | |
| C | 0.50 | 0.53 | 12.76 | 13.36 | |
| D | 0.15 | 0.16 | 3.80 | 4.0 | |
| E | 0.12 | 0.13 | 3.10 | 3.30 | |
| F | 0.025 | 0.033 | 0.65 | 0.85 | |
| G | 0.06 | 0.07 | 1.50 | 1.70 | |
| H | 0.025 | 0.033 | 0.65 | 0.85 | |
| J | 0.08 | 0.10 | 2.08 | 2.48 | |
| K | 0.12 | 0.14 | 3.05 | 3.45 | |
| L | 0.63 | 0.64 | 15.90 | 16.30 | |
| M | | 0.04 | | 1.0 | |
| N | | 0.02 | | 0.5 | |
| P | 0.06 | 0.08 | 1.55 | 1.95 | |
| Q | 0.018 | 0.023 | 0.45 | 0.60 | |
| R | 0.43 | 0.44 | 10.80 | 11.20 | |



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