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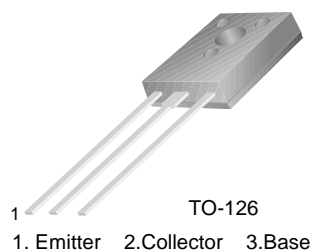
sales@integrated-circuit.com



MJE700/701/702/703

Monolithic Construction With Built-in Base-Emitter Resistors

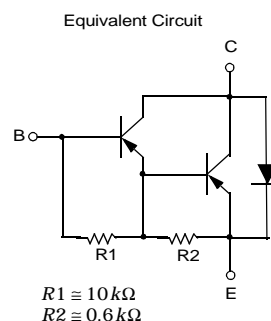
- High DC Current Gain : $h_{FE} = 750$ (Min.) @ $I_C = -1.5$ and $-2.0A$ DC
- Complement to MJE800/801/802/803



PNP Epitaxial Silicon Darlington Transistor

Absolute Maximum Ratings $T_C=25^{\circ}\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------|--|--------------|-------------|
| V_{CBO} | Collector- Base Voltage : MJE700/701 : MJE702/703 | - 60 - 80 | V V |
| V_{CEO} | Collector-Emitter Voltage : MJE700/701 : MJE702/703 | - 60 - 80 | V V |
| V_{EBO} | Emitter- Base Voltage | - 5 | V |
| I_C | Collector Current | - 4 | A |
| I_B | Base Current | - 0.1 | A |
| P_C | Collector Dissipation ($T_C=25^{\circ}C$) | 40 | W |
| T_J | Junction Temperature | 150 | $^{\circ}C$ |
| T_{STG} | Storage Temperature | - 55 ~ 150 | $^{\circ}C$ |



Electrical Characteristics

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|---------------|---|---|-------------------|--------------------|--------------------------------|
| BV_{CEO} | Collector-Emitter Breakdown Voltage : MJE700/701 : MJE702/703 | $I_C = -10\text{mA}, I_B = 0$ | -60 -80 | | V V |
| I_{CEO} | Collector Cut-off Current : MJE700/701 : MJE702/703 | $V_{CE} = -60\text{V}, I_B = 0$ $V_{CE} = -80\text{V}, I_B = 0$ | | -100 -100 | μA μA |
| I_{CBO} | Collector Cut-off Current | $V_{CB} = \text{Rated } BV_{CEO}, I_E = 0$ $V_{CB} = \text{Rated } BV_{CEO}, I_E = 0$ $T_C = 100^\circ\text{C}$ | | -100 -500 | μA μA |
| I_{EBO} | Emitter Cut-off Current | $V_{BE} = -5\text{V}, I_C = 0$ | | -2 | mA |
| h_{FE} | DC Current Gain : MJE700/702 : MJE701/703 : ALL DEVICES | $V_{CE} = -3\text{V}, I_C = -1.5\text{A}$ $V_{CE} = -3\text{V}, I_C = -2\text{A}$ $V_{CE} = -3\text{V}, I_C = -4\text{A}$ | 750 750 100 | | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage : MJE700/702 : MJE701/703 : ALL DEVICES | $I_C = -1.5\text{A}, I_B = -30\text{mA}$ $I_C = -2\text{A}, I_B = -40\text{mA}$ $I_C = -4\text{A}, I_B = -40\text{mA}$ | | -2.5 -2.8 -3 | V V V |
| $V_{BE(on)}$ | Base-Emitter On Voltage : MJE700/702 : MJE701/703 : ALL DEVICES | $V_{CE} = -3\text{V}, I_C = -1.5\text{A}$ $V_{CE} = -3\text{V}, I_C = -2\text{A}$ $V_{CE} = -3\text{V}, I_C = -4\text{A}$ | | -1.2 -2.5 -3 | V V V |

Typical Characteristics

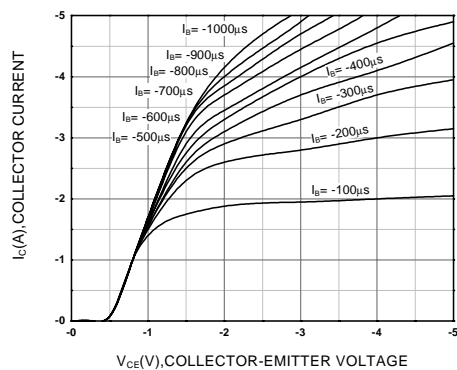


Figure 1. Static Characteristic

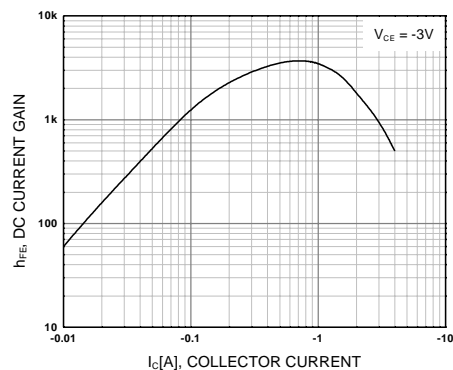


Figure 2. DC current Gain

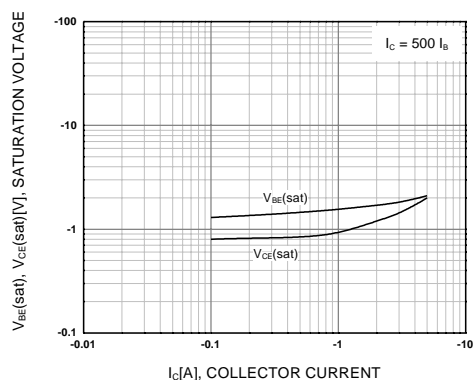


Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

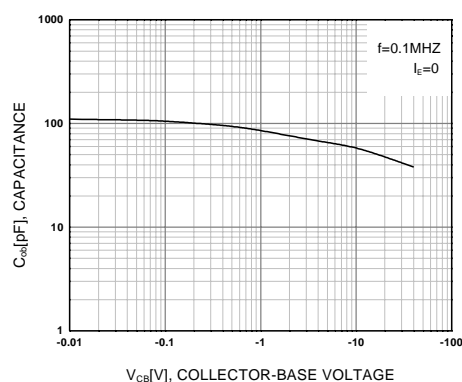


Figure 4. Collector Output Capacitance

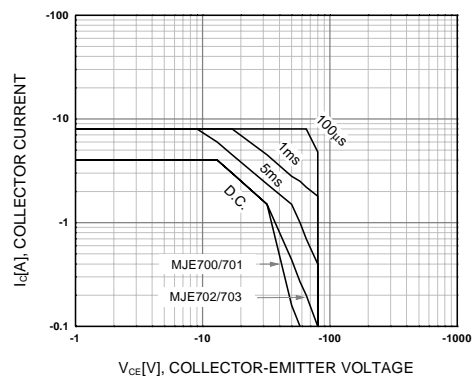


Figure 5. Safe Operating Area

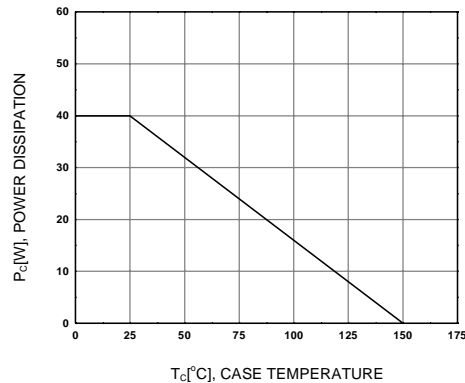
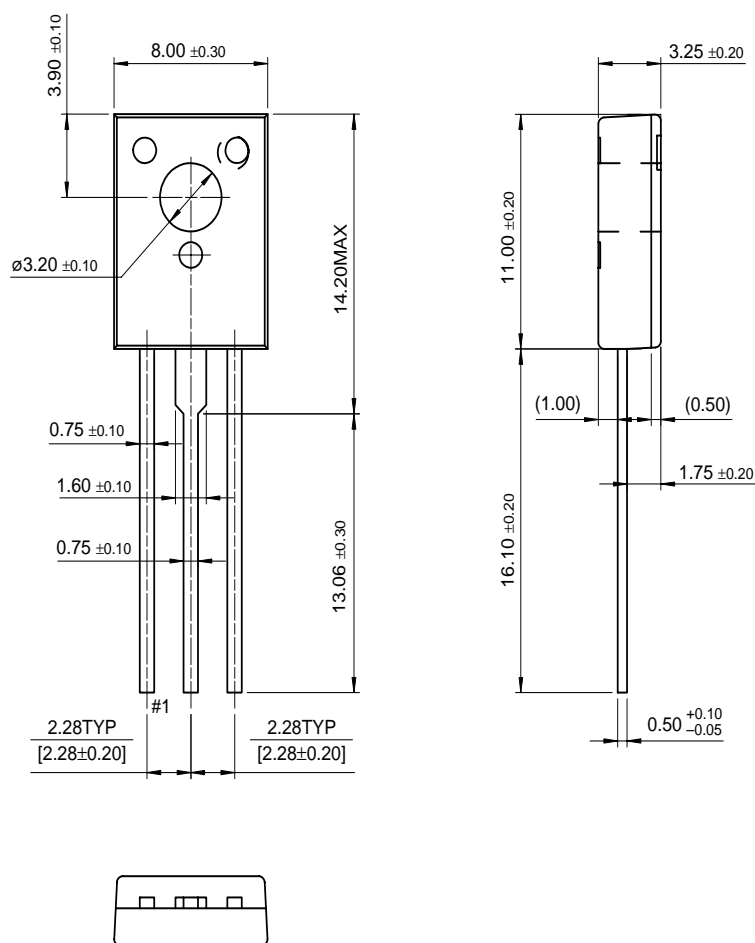


Figure 6. Power Derating

Package Demensions

TO-126



Dimensions in Millimeters

MJE700/701/702/703

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