



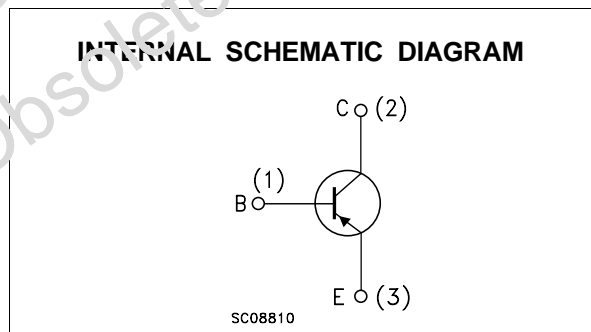
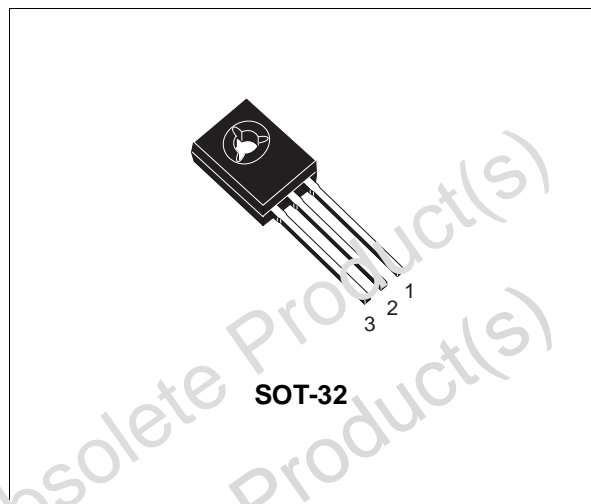
MJE210

SILICON PNP TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPE
- PNP TRANSISTOR

DESCRIPTION

The MJE210 is a silicon Epitaxial-Base PNP transistor in Jedec SOT-32 plastic package, designed for low voltage, low power, high gain audio amplifier applications.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|-----------|---|------------|------|
| V_{CB0} | Collector-Base Voltage ($I_E = 0$) | -40 | V |
| V_{CE0} | Collector-Emitter Voltage ($I_B = 0$) | -25 | V |
| V_{EB0} | Base-Emitter Voltage ($I_C = 0$) | -8 | V |
| I_C | Collector Current | -5 | A |
| I_{CM} | Collector Peak Current ($t_p < 5$ ms) | -10 | A |
| I_B | Base Current | -1 | A |
| P_{tot} | Total Power Dissipation at $T_{case} \leq 25$ °C at $T_{amb} \leq 25$ °C | 15 1.5 | W |
| T_{stg} | Storage Temperature | -65 to 150 | °C |
| T_j | Max Operating Junction Temperature | 150 | °C |

MJE210

THERMAL DATA

| | | | | |
|-----------------------|-------------------------------------|-----|------|------|
| R _{thj-amb} | Thermal Resistance Junction-ambient | Max | 83.4 | °C/W |
| R _{thj-case} | Thermal Resistance Junction-case | Max | 8.34 | °C/W |

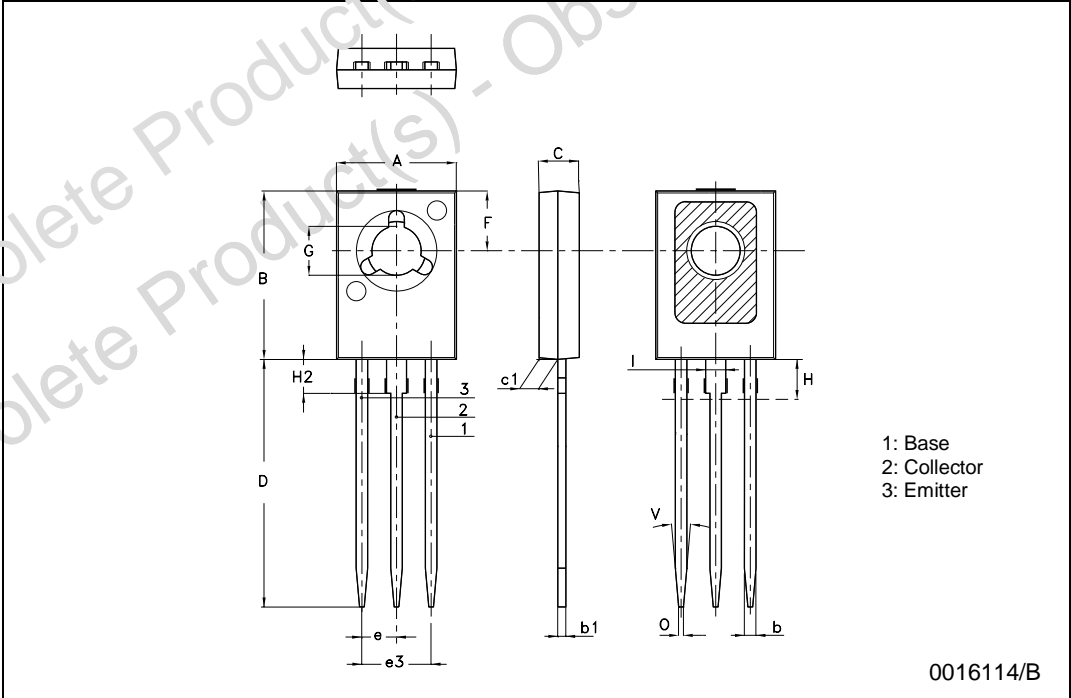
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|------------------------|---|--|----------------|------|-----------------------|-------------|
| I _{CBO} | Collector Cut-off Current (I _E = 0) | V _{CB} = -40 V V _{CB} = -40 V T _{case} = 125°C | | | -100 -100 | nA μA |
| I _{EBO} | Emitter Cut-off Current (I _C = 0) | V _{EB} = -8 V | | | -100 | nA |
| V _{CEO(sus)*} | Collector-Emitter Sustaining Voltage (I _B = 0) | I _C = -10 mA | -25 | | | V |
| V _{CE(sat)*} | Collector-Emitter Sustaining Voltage | I _C = -0.5 A I _B = -50 mA I _C = -2 A I _B = -0.2 A I _C = -5 A I _B = -1 A | | | -0.3 -0.75 -1.8 | V V V |
| V _{BE(sat)*} | Base-Emitter on Voltage | I _C = -5 A I _B = -1 A | | | -2.5 | V |
| V _{BE*} | Base-Emitter on Voltage | I _C = -2 A V _{CE} = -1 V | | | -1.6 | V |
| h _{FE*} | DC Current Gain | I _C = -0.5 A V _{CE} = -1 V I _C = -2 A V _{CE} = -1 V I _C = -5 A V _{CE} = -2 V | 70 45 10 | | 180 | |
| f _T | Transistor Frequency | I _C = 0.1 A V _{CE} = 10 V f = 10 MHz | 65 | | | MHz |
| C _{CBO} | Collector-base Capacitance | V _{CE} = -10 V I _E = 0 f = 0.1 MHz | | | 120 | pF |

* Pulsed: Pulse duration = 300μs, duty cycle = 1.5%

SOT-32 (TO-126) MECHANICAL DATA

| DIM. | mm | | | inch | | |
|------|------|------|------|-------|-------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 7.4 | | 7.8 | 0.291 | | 0.307 |
| B | 10.5 | | 10.8 | 0.413 | | 0.425 |
| b | 0.7 | | 0.9 | 0.028 | | 0.035 |
| b1 | 0.40 | | 0.65 | 0.015 | | 0.025 |
| C | 2.4 | | 2.7 | 0.094 | | 0.106 |
| c1 | 1.0 | | 1.3 | 0.039 | | 0.051 |
| D | 15.4 | | 16.0 | 0.606 | | 0.630 |
| e | | 2.2 | | | 0.087 | |
| e3 | | 4.4 | | | 0.173 | |
| F | | 3.8 | | | 0.150 | |
| G | 3 | | 3.2 | 0.118 | | 0.126 |
| H | | | 2.54 | | | 0.100 |
| H2 | | 2.15 | | | 0.084 | |
| I | | 1.27 | | | 0.05 | |
| O | | 0.3 | | | 0.011 | |
| V | | 10° | | | 10° | |



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