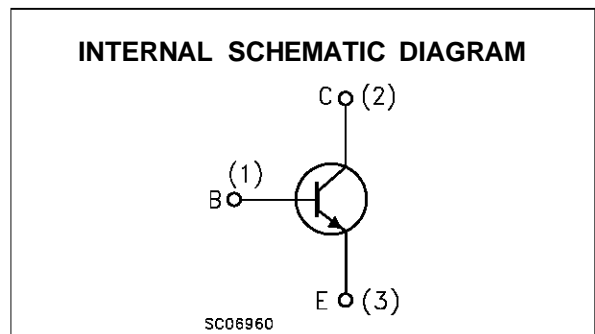
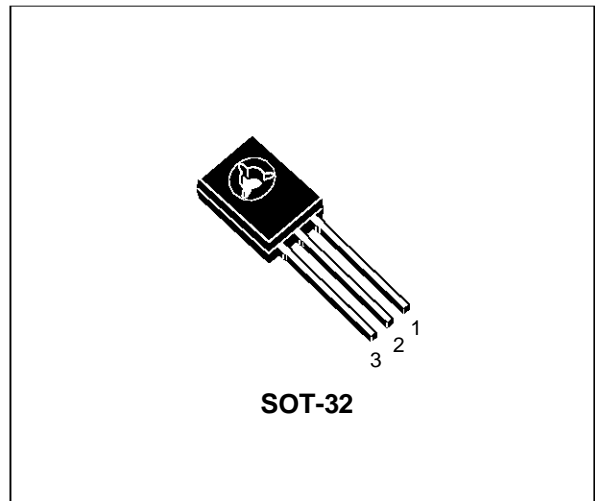


SILICON NPN TRANSISTOR

- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR

DESCRIPTION

The MJE3440 is a NPN silicon epitaxial planar transistors in SOT-32 plastic package. It is designed for use in consumer and industrial line-operated applications.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|-----------|---|-------------|------------|
| V_{CBO} | Collector-Base Voltage ($I_E = 0$) | 350 | V |
| V_{CEO} | Collector-Emitter Voltage ($I_B = 0$) | 250 | V |
| V_{EBO} | Emitter-Base Voltage ($I_C = 0$) | 5 | V |
| I_C | Collector Current | 0.3 | A |
| I_B | Base Current | 0.15 | A |
| P_{tot} | Total Power Dissipation at $T_{case} \leq 25^\circ C$ | 15 | W |
| T_{stg} | Storage Temperature | -65 to +150 | $^\circ C$ |
| T_j | Max. Operating Junction Temperature | 150 | $^\circ C$ |

MJE3440

THERMAL DATA

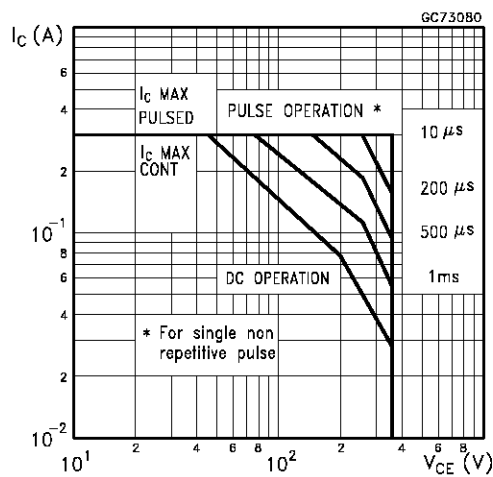
| | | | | |
|-----------------------|----------------------------------|-----|------|------|
| R _{thj-case} | Thermal Resistance Junction-case | Max | 8.33 | °C/W |
|-----------------------|----------------------------------|-----|------|------|

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

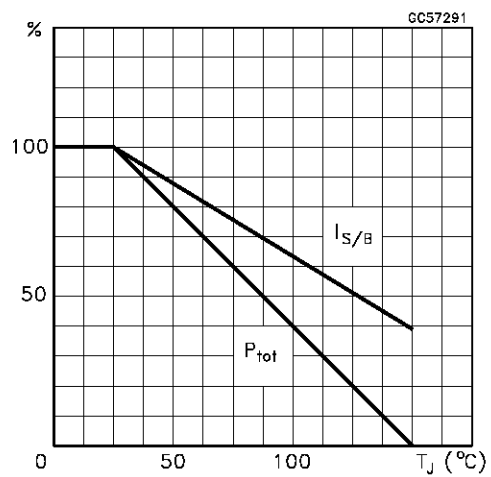
| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------------|---|---|----------|------|------|------|
| I _{CBO} | Collector Cut-off Current (I _E = 0) | V _{CB} = 250 V | | | 20 | μA |
| I _{CEV} | Collector Cut-off Current (V _{BE} = -1.5V) | V _{CE} = 300 V | | | 500 | μA |
| I _{CEO} | Collector Cut-off Current (I _B = 0) | V _{CE} = 200 V | | | 50 | μA |
| I _{EBO} | Emitter Cut-off Current (I _C = 0) | V _{EB} = 5 V | | | 20 | μA |
| V _{CE(sat)*} | Collector-Emitter Saturation Voltage | I _C = 50 mA I _B = 4 mA | | | 0.5 | V |
| V _{BE(sat)*} | Base-Emitter Saturation Voltage | I _C = 50 mA I _B = 4 mA | | | 0.3 | V |
| V _{BE*} | Base-Emitter Voltage | I _C = 50 mA V _{CE} = 10 V | | | 0.8 | V |
| h _{FE*} | DC Current Gain | I _C = 2 mA V _{CE} = 10 V I _C = 20 mA V _{CE} = 10 V | 30 50 | | 200 | |
| h _{fe} | Small Signal Current Gain | I _C = 5 mA V _{CE} = 10 V f = 1 KHz | 25 | | | |
| f _T | Transistor Frequency | I _C = 10 mA V _{CE} = 10 V f = 5 MHz | 15 | | | MHz |
| C _{CBO*} | Collector-Base Capacitance | V _{CB} = 10 V I _E = 0 f = 1 MHz | | | 10 | pF |

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

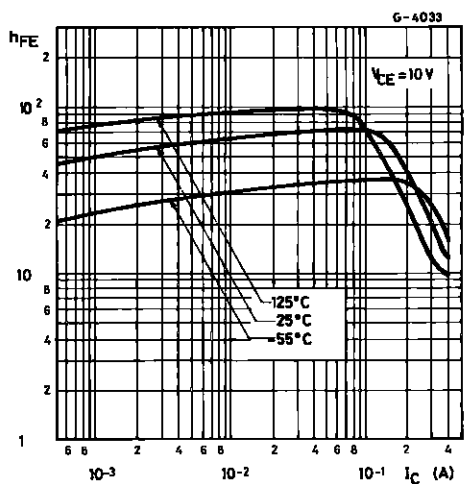
Safe Operating Area



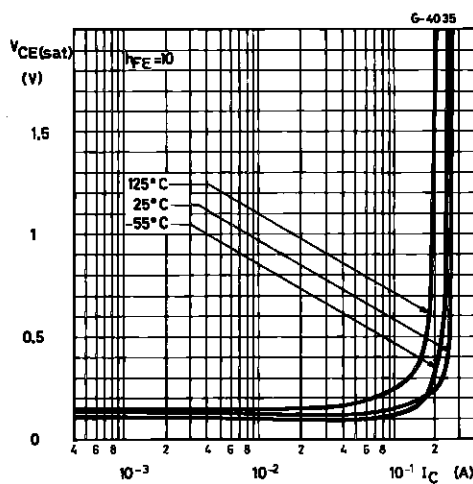
Derating Curve



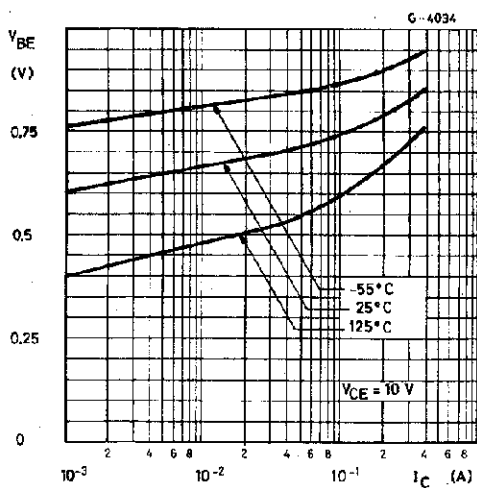
DC Current Gain



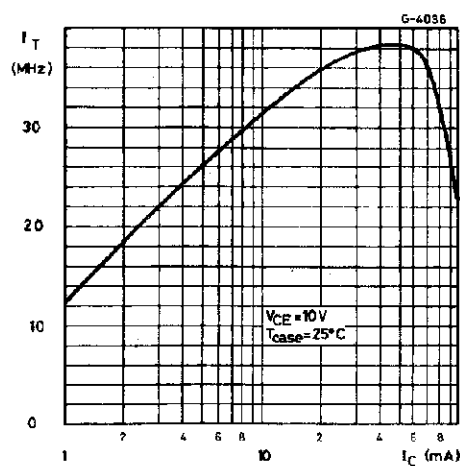
Collector-emitter Saturation Voltage



Base-emitter Voltage

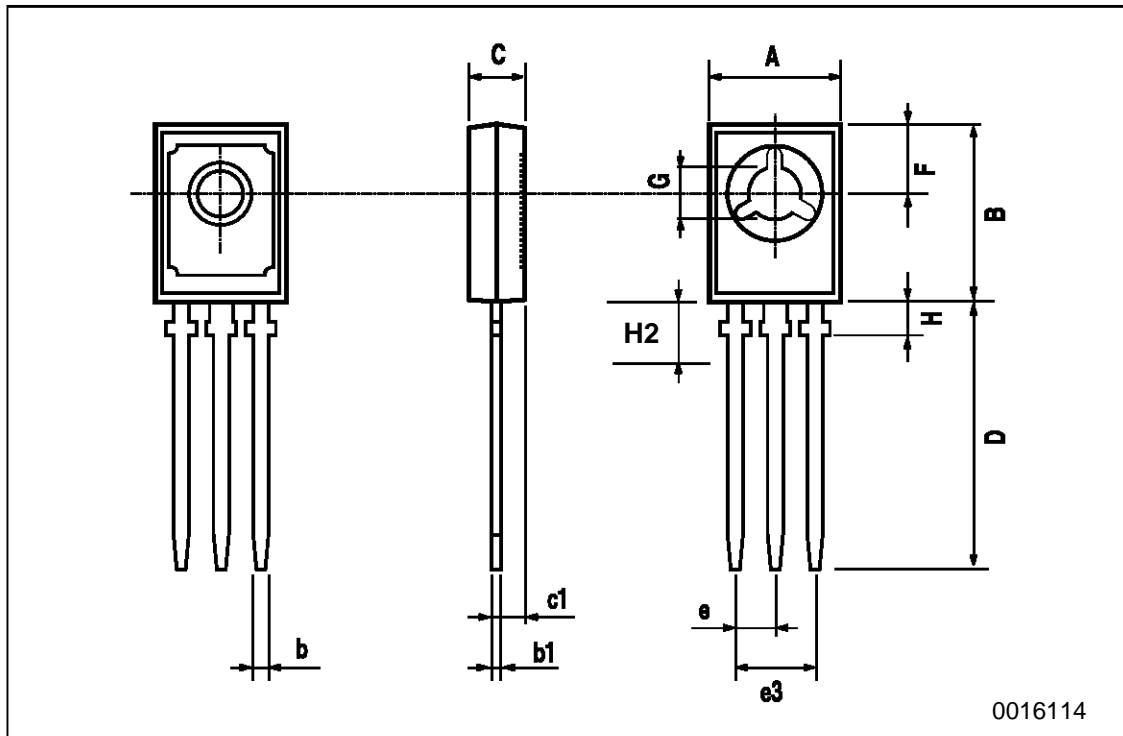


Transition Frequency



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 | | 0.445 |
| b | 0.7 | | 0.9 | 0.028 | | 0.035 |
| b1 | 0.49 | | 0.75 | 0.019 | | 0.030 |
| C | 2.4 | | 2.7 | 0.040 | | 0.106 |
| c1 | 1.0 | | 1.3 | 0.039 | | 0.050 |
| D | 15.4 | | 16.0 | 0.606 | | 0.629 |
| e | | 2.2 | | | 0.087 | |
| e3 | 4.15 | | 4.65 | 0.163 | | 0.183 |
| F | | 3.8 | | | 0.150 | |
| G | 3 | | 3.2 | 0.118 | | 0.126 |
| H | | | 2.54 | | | 0.100 |
| H2 | | 2.15 | | | 0.084 | |



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