



MJB32B

PNP SILICON POWER TRANSISTOR

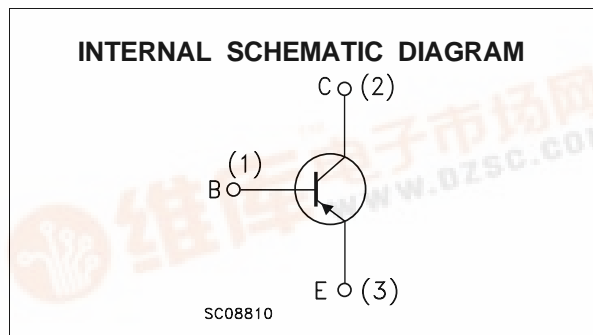
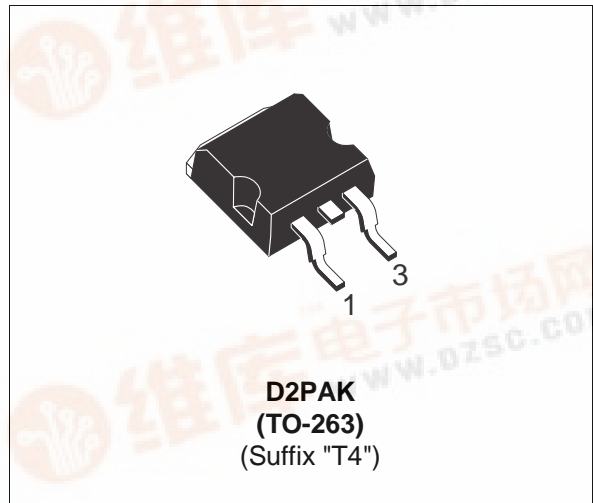
- SURFACE-MOUNTING D²PAK (TO-263) POWER PACKAGE IN TAPE & REEL (SUFFIX "T4")
- ELECTRICALLY SIMILAR TO TIP32B

APPLICATION

- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

DESCRIPTION

The MJB32B is manufactured using Epitaxial-base Technology for use in medium power linear and switching applications.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|------------------|--|------------|--------|
| V _{CB0} | Collector-Base Voltage (I _E = 0) | -80 | V |
| V _{CEO} | Collector-Emitter Voltage (I _B = 0) | -80 | V |
| V _{EBO} | Emitter-Base Voltage (I _C = 0) | -5 | V |
| I _C | Collector Current | -3 | A |
| I _{CM} | Collector Peak Current | -5 | A |
| I _B | Base Current | -1 | A |
| P _{tot} | Total Dissipation at T _{case} ≤ 25 °C T _{amb} ≤ 25 °C | 40 2 | W W |
| T _{stg} | Storage Temperature | -65 to 150 | °C |
| T _j | Max. Operating Junction Temperature | 150 | °C |

MJB32B

THERMAL DATA

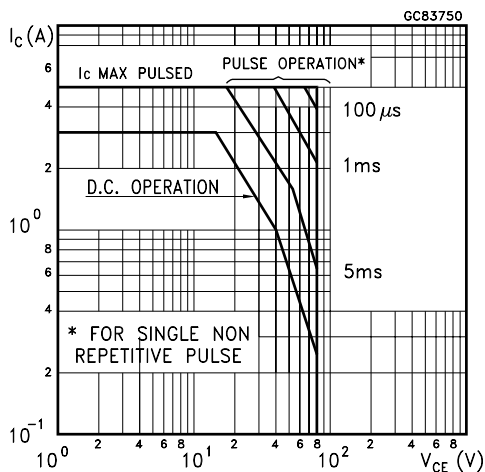
| | | | | |
|-----------------------|-------------------------------------|-----|------|------|
| R _{thj-case} | Thermal Resistance Junction-case | Max | 3.12 | °C/W |
| R _{thj-amb} | Thermal Resistance Junction-ambient | Max | 62.5 | °C/W |

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

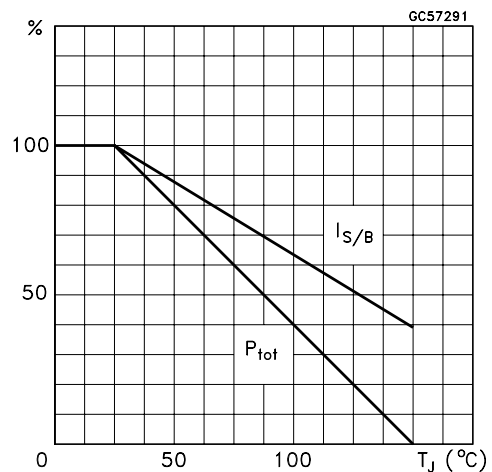
| Symbol | Parameter | Test Conditions | | Min. | Typ. | Max. | Unit |
|------------------------|---|--|--|----------|------|------|------|
| I _{CEO} | Collector Cut-off Current (I _B = 0) | V _{CE} = -60 V | | | | -50 | μA |
| I _{CES} | Collector Cut-off Current (V _{BE} = 0) | V _{CE} = -80 V | | | | -20 | μA |
| I _{EBO} | Emitter Cut-off Current (I _C = 0) | V _{EB} = -5 V | | | | -0.1 | mA |
| V _{CEO(sus)*} | Collector-Emitter Sustaining Voltage (I _B = 0) | I _C = -30 mA | | -80 | | | V |
| V _{CE(sat)*} | Collector-Emitter Saturation Voltage | I _C = -3 A | I _B = -375 mA | | | -1.2 | V |
| V _{BE*} | Base-Emitter Voltage | I _C = -3 A | V _{CE} = -4 V | | | -1.8 | V |
| h _{FE*} | DC Current Gain | I _C = -1 A I _C = -3 A | V _{CE} = -4 V V _{CE} = -4 V | 25 10 | | 50 | |
| h _{fe} | Small Signal Current Gain | I _C = -0.5 A I _C = -0.5 A | V _{CE} = -10 V V _{CE} = -10 V f = 1 KHz f = 1 MHz | 20 3 | | | |

* Pulsed : pulse duration = 300 μs, duty cycle ≤ 2%

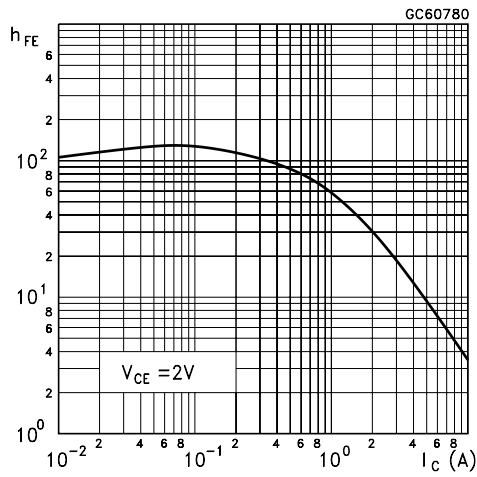
Safe Operating Area



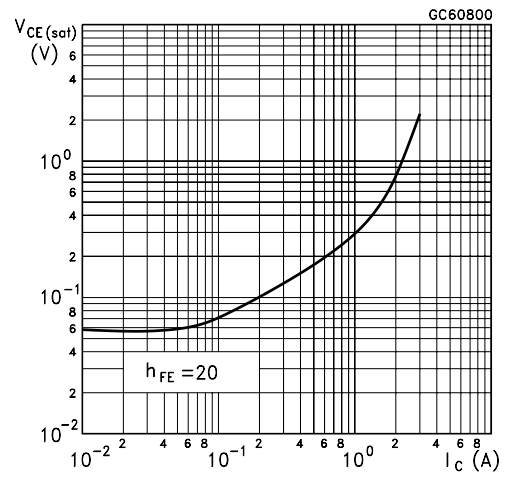
Derating Curves



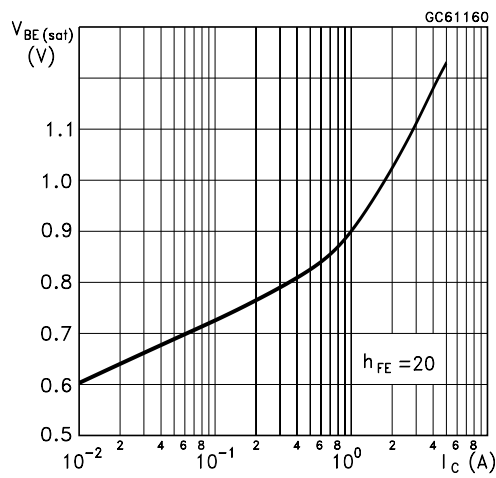
DC Current Gain



Collector-Emitter Saturation Voltage

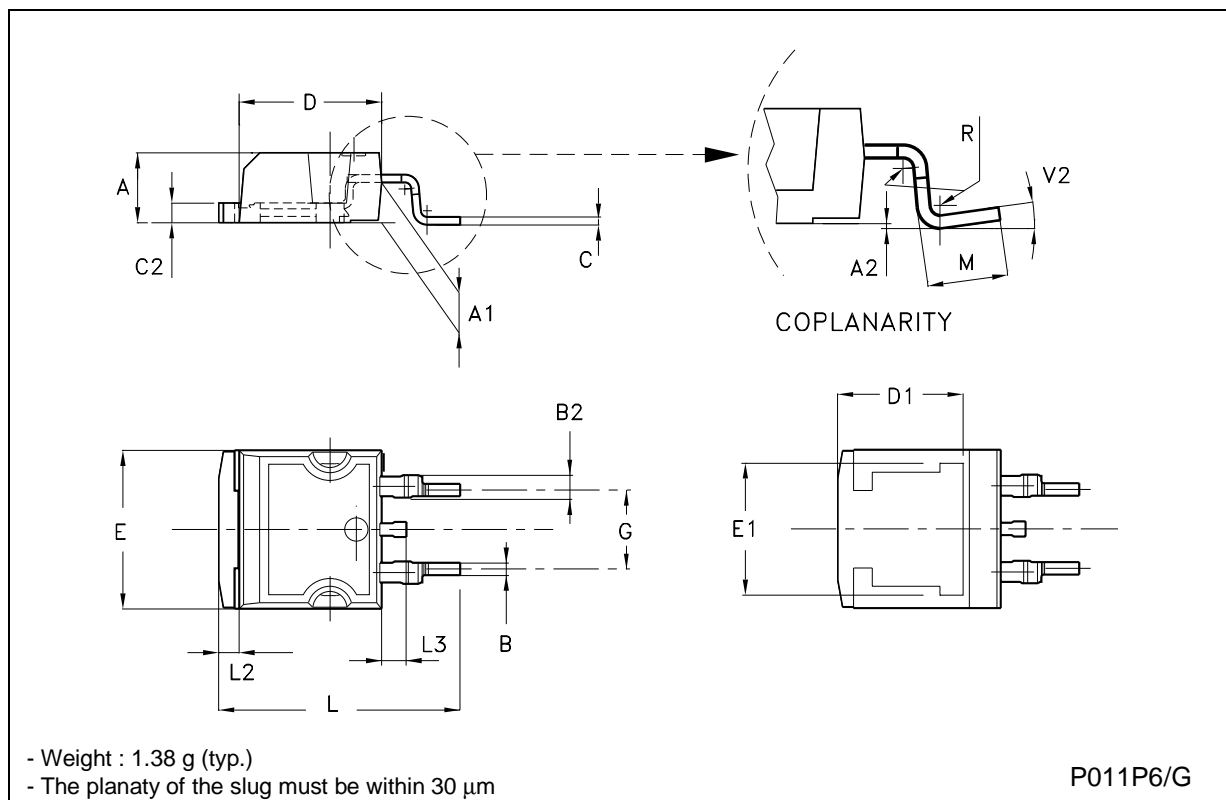


Collector-Base Capacitance



TO-263 (D²PAK) MECHANICAL DATA

| DIM. | mm | | | inch | | |
|------|-------|------|-------|-------|-------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 4.40 | | 4.60 | 0.173 | | 0.181 |
| A1 | 2.49 | | 2.69 | 0.098 | | 0.106 |
| A2 | 0.03 | | 0.23 | 0.001 | | 0.009 |
| B | 0.70 | | 0.93 | 0.027 | | 0.036 |
| B2 | 1.14 | | 1.70 | 0.044 | | 0.067 |
| C | 0.45 | | 0.60 | 0.017 | | 0.023 |
| C2 | 1.23 | | 1.36 | 0.048 | | 0.053 |
| D | 8.95 | | 9.35 | 0.352 | | 0.368 |
| D1 | | 8.00 | | | 0.315 | |
| E | 10.00 | | 10.40 | 0.393 | | 0.409 |
| E1 | | 8.50 | | | 0.334 | |
| G | 4.88 | | 5.28 | 0.192 | | 0.208 |
| L | 15.00 | | 15.85 | 0.590 | | 0.624 |
| L2 | 1.27 | | 1.4 | 0.050 | | 0.055 |
| L3 | 1.40 | | 1.75 | 0.055 | | 0.068 |
| M | 2.40 | | 3.2 | 0.094 | | 0.126 |
| R | | 0.40 | | | 0.016 | |
| V2 | 0° | | 8° | 0° | | 8° |



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