

GJSD1803 NPN EPITAXIAL PLANAR SILICON TRANSISTOR

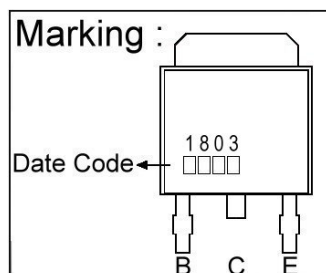
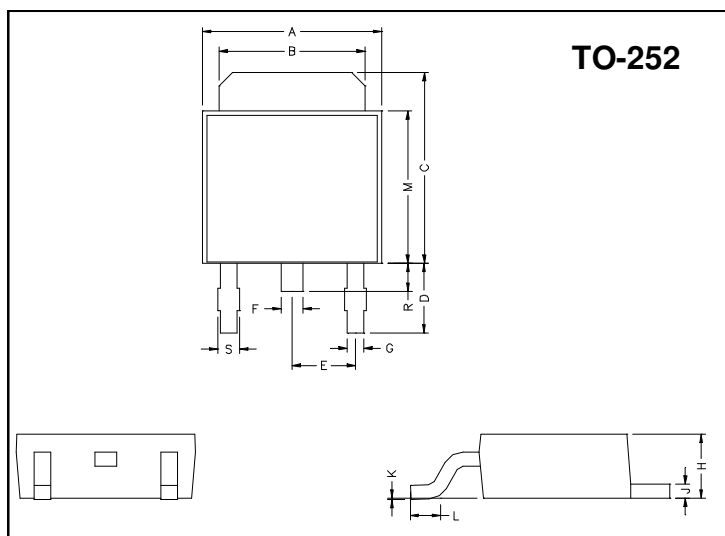
Description

The GJSD1803 applies to relay drivers, high-speed inverters, converters, and other general high-current switching applications.

Features

- *Low collector-to-emitter saturation voltage.
- *High current and high f_T
- *Excellent linearity of h_{FE}
- *Fast switching time

Package Dimensions



| REF. | Millimeter | | REF. | Millimeter | |
|------|------------|------|------|------------|------|
| | Min. | Max. | | Min. | Max. |
| A | 6.40 | 6.80 | G | 0.50 | 0.70 |
| B | 5.20 | 5.50 | H | 2.20 | 2.40 |
| C | 6.80 | 7.20 | J | 0.45 | 0.55 |
| D | 2.40 | 3.00 | K | 0 | 0.15 |
| E | 2.30 REF. | | L | 0.90 | 1.50 |
| F | 0.70 | 0.90 | M | 5.40 | 5.80 |
| S | 0.60 | 0.90 | R | 0.80 | 1.20 |

Absolute Maximum Ratings (Ta = 25°C, unless otherwise specified)

| Parameter | Symbol | Ratings | Unit |
|------------------------------|----------------------|------------|------|
| Junction Temperature | Tj | +150 | °C |
| Storage Temperature | Tstg | -55 ~ +150 | °C |
| Collector to Base Voltage | V _{CB0} | 60 | V |
| Collector to Emitter Voltage | V _{CE0} | 50 | V |
| Emitter to Base Voltage | V _{EB0} | 6 | V |
| Collector Current(DC) | I _C | 5 | A |
| Collector Current(Pulse) | I _{CP} | 8 | A |
| Collector Dissipation | P _D | 1 | W |
| | T _c =25°C | 20 | W |

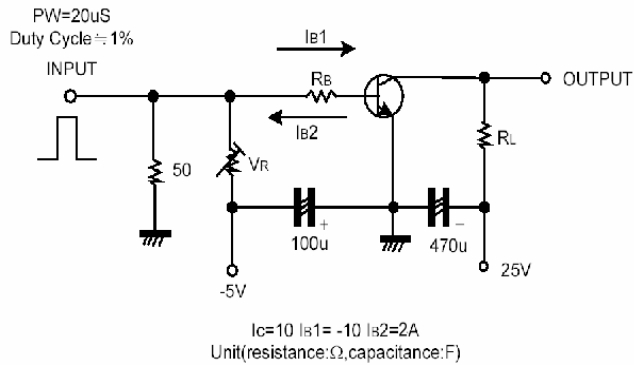
Electrical Characteristics (Ta = 25°C unless otherwise specified)

| Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|----------------------|------|------|------|------|---|
| V(BR)CBO | 60 | - | - | V | I _C =10uA, I _E =0 |
| V(BR)CEO | 50 | - | - | V | I _C =1mA, R _{BE} =∞ |
| V(BR)EBO | 6 | - | - | V | I _E =10uA, I _C =0 |
| I _{CBO} | - | - | 1 | uA | V _{CB} =40V, I _E =0 |
| I _{EBO} | - | - | 1 | uA | V _{EB} =4V, I _C =0 |
| V _{CE(sat)} | - | 0.22 | 0.4 | V | I _C =3A, I _B =0.15A |
| V _{BE(sat)} | - | 0.95 | 1.3 | V | I _C =3A, I _B =0.15A |
| h _{FE1} | 70 | - | 400 | | V _{CE} =2V, I _C =0.5A |
| h _{FE2} | 35 | - | - | | V _{CE} =2V, I _C =4A |
| f _T | - | 180 | - | MHZ | V _{CE} =5V, I _C =1A |
| t _{on} | - | 50 | - | ns | See test circuit |
| t _{stg} | - | 500 | - | ns | See test circuit |
| t _f | - | 20 | - | ns | See test circuit |
| C _{ob} | - | 40 | - | pF | V _{CB} =10V, f=1MHZ |

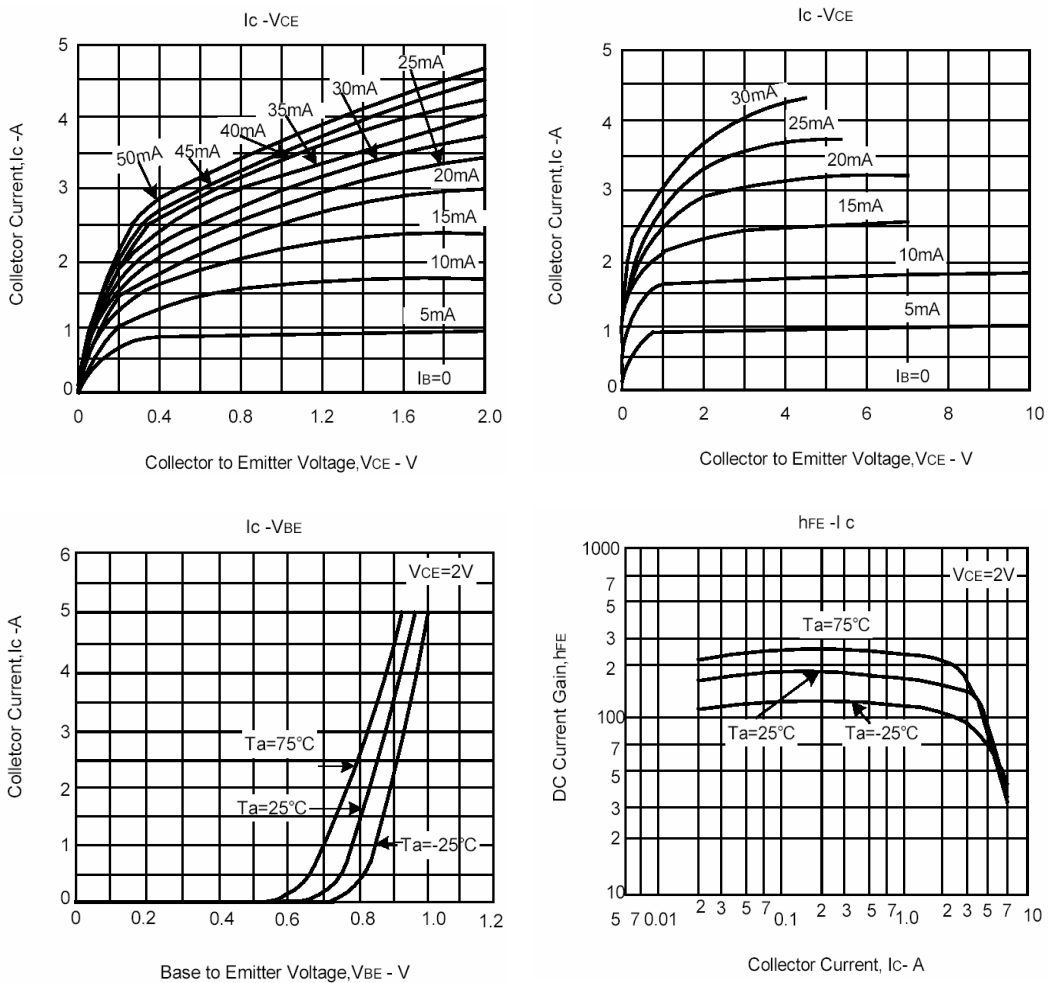
Classification Of hFE1

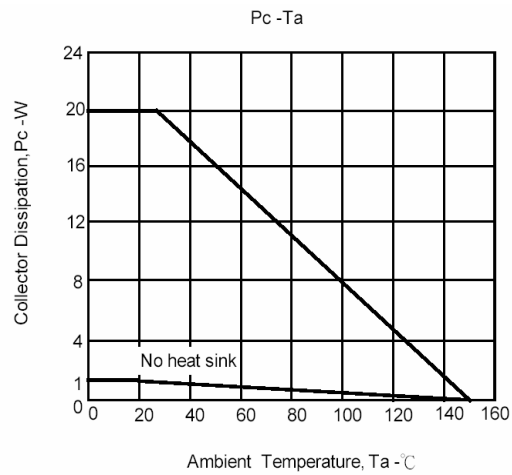
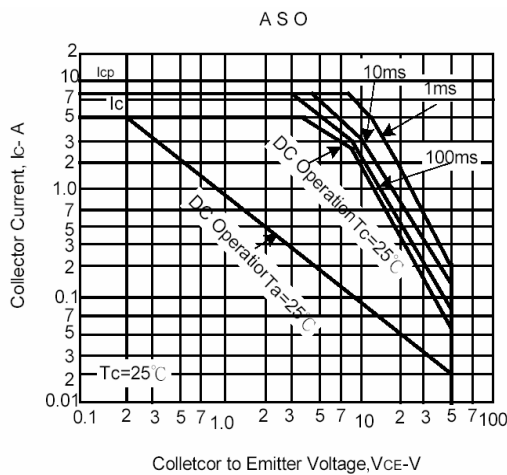
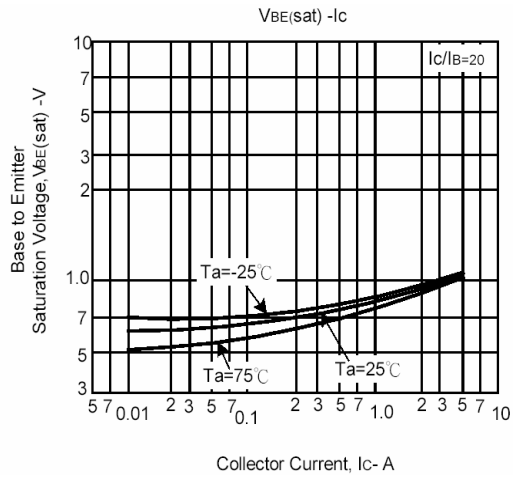
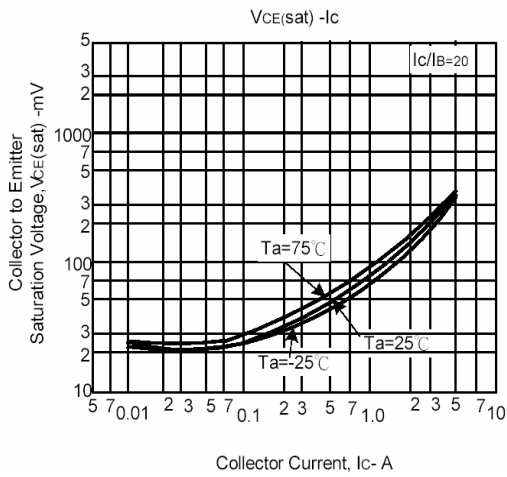
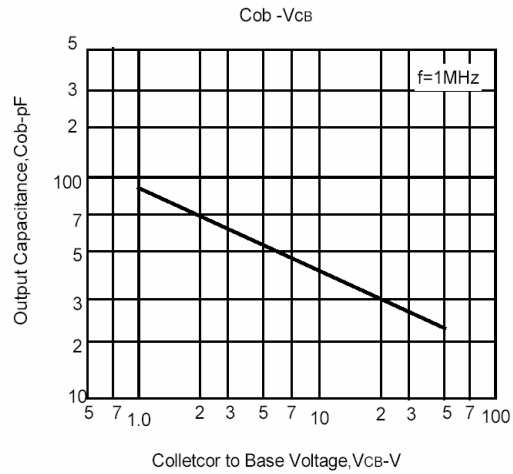
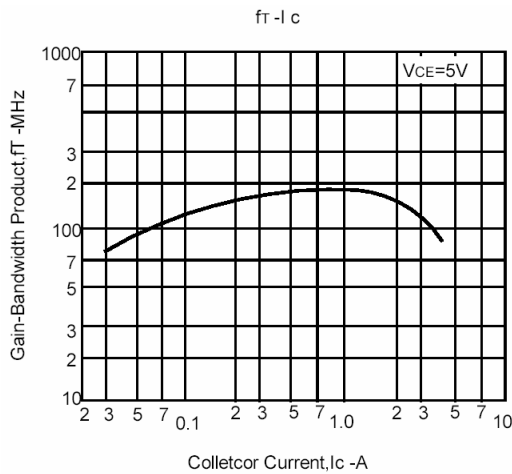
| Rank | Q | R | S | T |
|-------|----------|-----------|-----------|-----------|
| Range | 70 ~ 140 | 100 ~ 200 | 140 ~ 280 | 200 ~ 400 |

Switching Time Test Circuit



Characteristics Curve





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