

## GJ31C

### NPN EPITAXIAL PLANAR TRANSISTOR

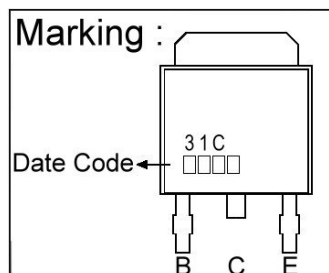
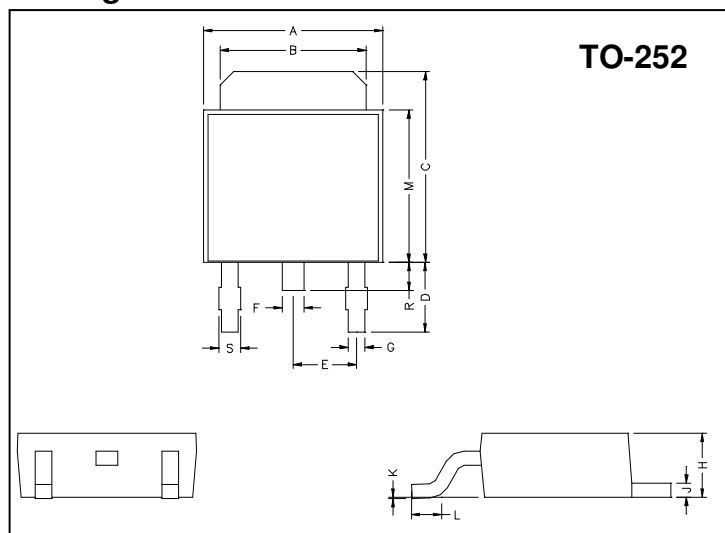
#### Description

The GJ31C is designed for use in general purpose amplifier and switching applications.

#### Features

\*Complementary to GJ32C

#### 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)

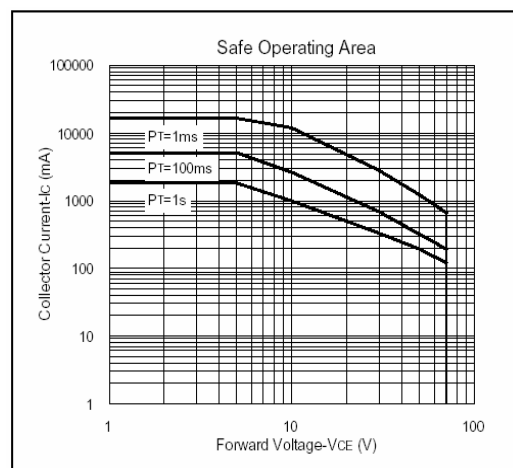
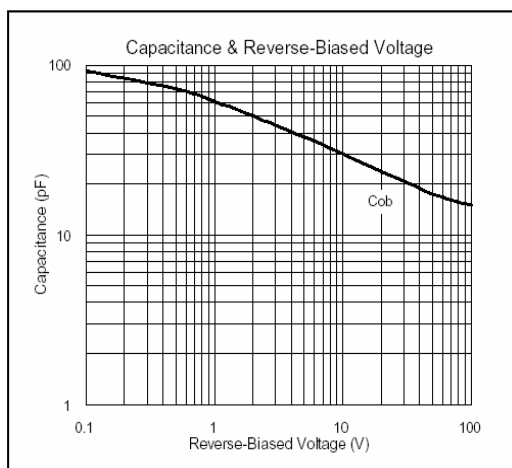
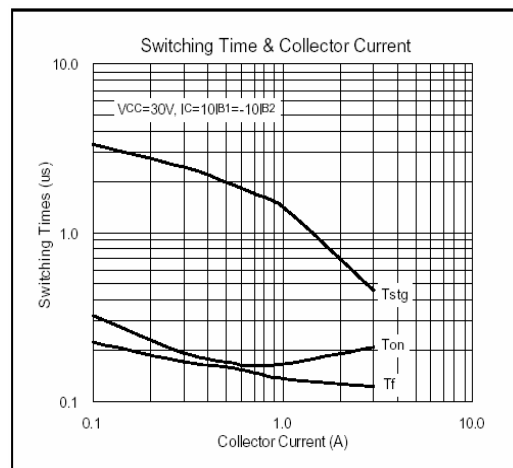
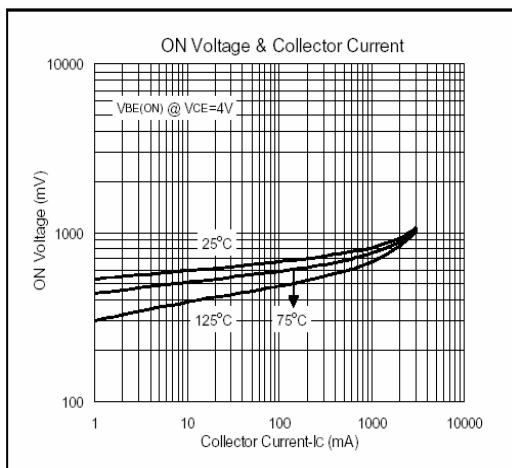
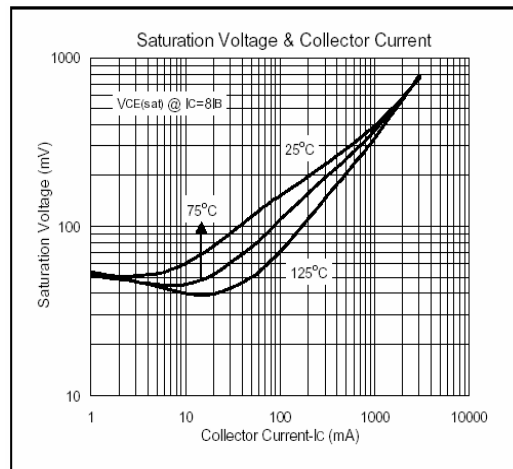
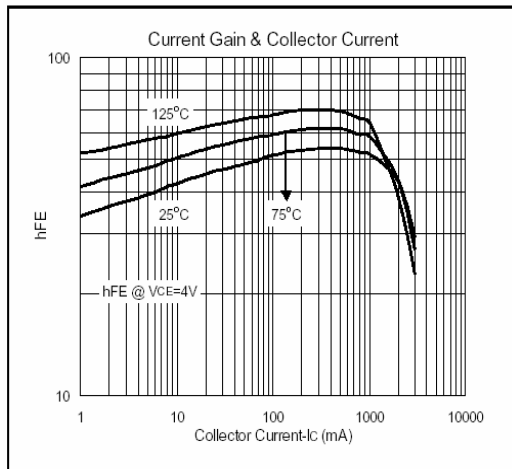
| Parameter                    | Symbol                                | Ratings    | Unit |
|------------------------------|---------------------------------------|------------|------|
| Collector to Base Voltage    | V <sub>CB0</sub>                      | 100        | V    |
| Collector to Emitter Voltage | V <sub>CE0</sub>                      | 100        | V    |
| Emitter to Base Voltage      | V <sub>EB0</sub>                      | 5          | V    |
| Collector Current (DC)       | I <sub>C</sub>                        | 3          | A    |
| Collector Current (Pulse)    | I <sub>C</sub>                        | 5          | A    |
| Junction Temperature         | T <sub>j</sub>                        | +150       | °C   |
| Storage Temperature          | T <sub>stg</sub>                      | -55 ~ +150 | °C   |
| Total Power Dissipation      | P <sub>D</sub>                        | 2          | W    |
|                              | P <sub>D</sub> (T <sub>C</sub> =25°C) | 15         | W    |

#### Electrical Characteristics (Rating at Ta=25°C)

| Symbol                | Min. | Typ. | Max. | Unit | Test Conditions                                     |
|-----------------------|------|------|------|------|-----------------------------------------------------|
| BV <sub>CB0</sub>     | 100  | -    | -    | V    | I <sub>C</sub> =1mA, I <sub>E</sub> =0              |
| BV <sub>CE0</sub>     | 100  | -    | -    | V    | I <sub>C</sub> =30mA, I <sub>B</sub> =0             |
| BV <sub>EB0</sub>     | 5    | -    | -    | V    | I <sub>E</sub> =100uA, I <sub>C</sub> =0            |
| I <sub>CES</sub>      | -    | -    | 20   | uA   | V <sub>CE</sub> =100V, V <sub>EB</sub> =0V          |
| I <sub>CEO</sub>      | -    | -    | 50   | uA   | V <sub>CE</sub> =60V, I <sub>B</sub> =0             |
| I <sub>EB0</sub>      | -    | -    | 1    | mA   | V <sub>EB</sub> =5V, I <sub>C</sub> =0              |
| *V <sub>CE(sat)</sub> | -    | -    | 1.2  | V    | I <sub>C</sub> =3A, I <sub>B</sub> =375mA           |
| *V <sub>BE(on)</sub>  | -    | -    | 1.8  | V    | V <sub>CE</sub> =4V, I <sub>C</sub> =3A             |
| *h <sub>FE1</sub>     | 25   | -    | -    |      | V <sub>CE</sub> =4V, I <sub>C</sub> =1A             |
| *h <sub>FE2</sub>     | 10   | -    | 50   |      | V <sub>CE</sub> =4V, I <sub>C</sub> =3A             |
| f <sub>T</sub>        | 3    | -    | -    | MHz  | V <sub>CE</sub> =10V, I <sub>C</sub> =500mA, f=1MHz |

\* Pulse Test: Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

## Characteristics Curve



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