

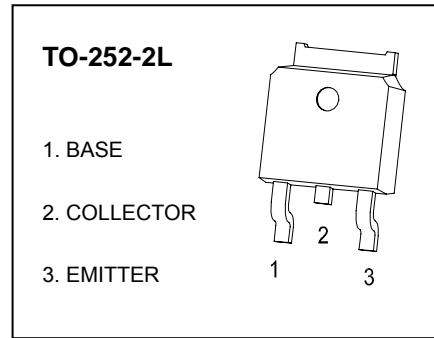


# TO-252-2L Plastic-Encapsulate Transistors

**2SC2983** TRANSISTOR (NPN)

**FEATURES**

- High Transition Frequency



**MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)**

| Symbol           | Parameter                                   | Value    | Unit |
|------------------|---|----------|------|
| V <sub>CB0</sub> | Collector-Base Voltage                      | 160      | V    |
| V <sub>CEO</sub> | Collector-Emitter Voltage                   | 160      | V    |
| V <sub>EBO</sub> | Emitter-Base Voltage                        | 5        | V    |
| I <sub>C</sub>   | Collector Current                           | 1.5      | A    |
| P <sub>C</sub>   | Collector Power Dissipation                 | 1        | W    |
| R <sub>θJA</sub> | Thermal Resistance From Junction To Ambient | 125      | °C/W |
| T <sub>j</sub>   | Junction Temperature                        | 150      | °C   |
| T <sub>stg</sub> | Storage Temperature                         | -55~+150 | °C   |

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

| Parameter                            | Symbol                 | Test conditions                                 | Min | Typ | Max | Unit |
|--------------------------------------|------------------------|---|-----|-----|-----|------|
| Collector-base breakdown voltage     | V <sub>(BR)CBO</sub>   | I <sub>C</sub> =1mA, I <sub>E</sub> =0          | 160 |     |     | V    |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub> * | I <sub>C</sub> =10mA, I <sub>B</sub> =0         | 160 |     |     | V    |
| Emitter-base breakdown voltage       | V <sub>(BR)EBO</sub>   | I <sub>E</sub> =1mA, I <sub>C</sub> =0          | 5   |     |     | V    |
| Collector cut-off current            | I <sub>CBO</sub>       | V <sub>CB</sub> =160V, I <sub>E</sub> =0        |     |     | 1   | μA   |
| Emitter cut-off current              | I <sub>EBO</sub>       | V <sub>EB</sub> =5V, I <sub>C</sub> =0          |     |     | 1   | μA   |
| DC current gain                      | h <sub>FE</sub>        | V <sub>CE</sub> =5V, I <sub>C</sub> =100mA      | 70  |     | 240 |      |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub>   | I <sub>C</sub> =500mA, I <sub>B</sub> =50mA     |     |     | 1.5 | V    |
| Base-emitter voltage                 | V <sub>BE</sub>        | V <sub>CE</sub> =5V, I <sub>C</sub> =500mA      |     |     | 1   | V    |
| Collector output capacitance         | C <sub>ob</sub>        | V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz |     | 25  |     | pF   |
| Transition frequency                 | f <sub>T</sub>         | V <sub>CE</sub> =10V, I <sub>C</sub> =100mA,    |     | 100 |     | MHz  |

\*Pulse test

**CLASSIFICATION OF h<sub>FE</sub>**

| RANK  | O      | Y       |
|-------|--------|---------|
| RANGE | 70-140 | 120-240 |

# Typical Characteristics

# 2SC2983

