

NPN SILICON EPITAXIAL DUAL TRANSISTOR  
FOR DIFFERENTIAL AMPLIFIER AND ULTRA HIGH SPEED SWITCHING  
INDUSTRIAL USE

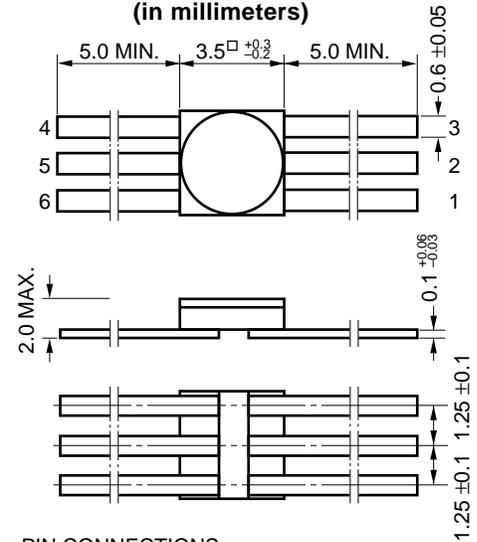
DESCRIPTION

The 2SC1927 is an NPN silicon epitaxial dual transistor that consists of two chips equivalent to the 2SC1275, and is designed for differential amplifier and ultra-high-speed switching applications.

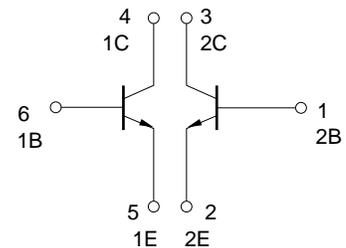
ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25 °C)

| PARAMETER                    | SYMBOL           | RATINGS     | UNIT    |
|------------------------------|------------------|-------------|---------|
| Collector to Base Voltage    | V <sub>CB0</sub> | 30          | V       |
| Collector to Emitter Voltage | V <sub>CEO</sub> | 14          | V       |
| Emitter to Base Voltage      | V <sub>EBO</sub> | 3.0         | V       |
| Collector Current            | I <sub>C</sub>   | 50          | mA      |
| Collector Dissipation        | P <sub>C</sub>   | 200         | mW/unit |
| Total Power Dissipation      | P <sub>T</sub>   | 300         | mW      |
| Junction Temperature         | T <sub>j</sub>   | 200         | °C      |
| Storage Temperature          | T <sub>stg</sub> | -65 to +200 | °C      |

PACKAGE DIMENSIONS  
(in millimeters)



PIN CONNECTIONS

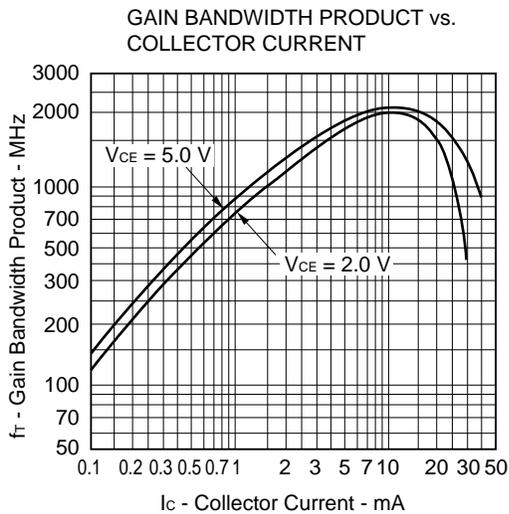
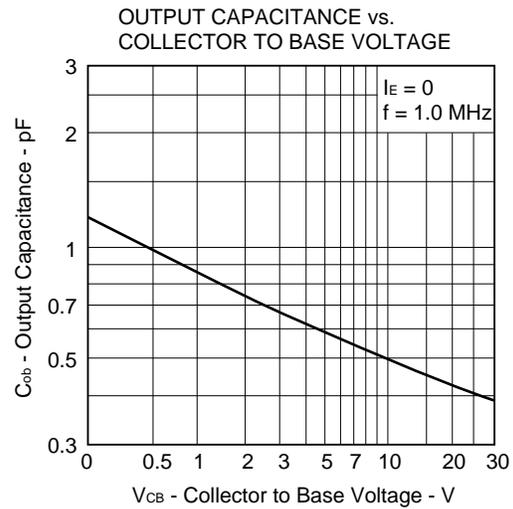
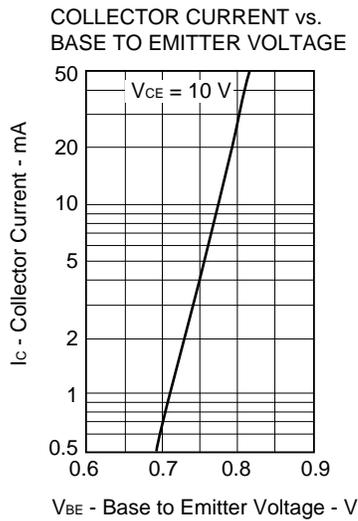
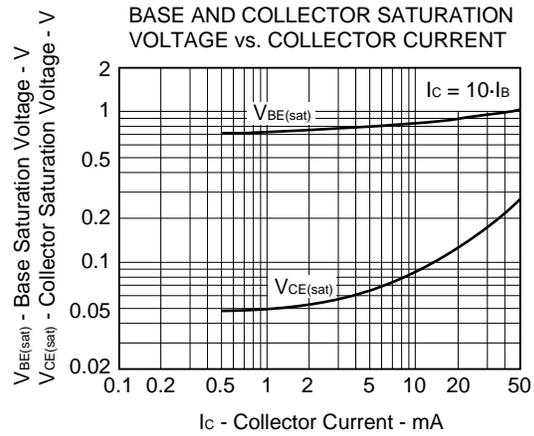
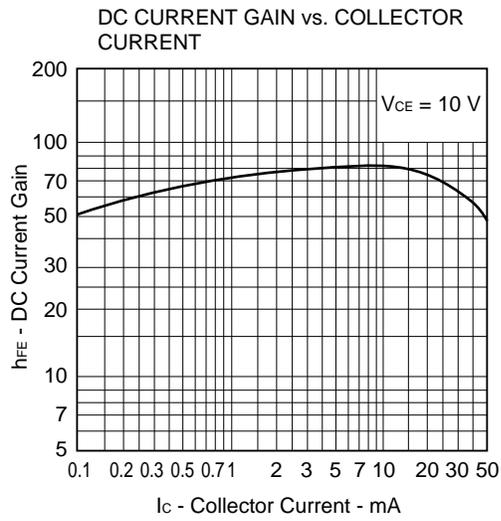


ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C)

| PARAMETER                             | SYMBOL                             | TEST CONDITIONS  | MIN. | TYP. | MAX. | UNIT |
|---------------------------------------|------------------------------------|--|------|------|------|------|
| Collector Cut-off Current             | I <sub>CES</sub>                   | V <sub>CE</sub> = 15 V, R <sub>BE</sub> = 0                |      |      | 50   | nA   |
| Emitter Cut-off Current               | I <sub>EBO</sub>                   | V <sub>EB</sub> = 2.0 V, I <sub>C</sub> = 0                |      |      | 50   | nA   |
| DC Current Gain                       | h <sub>FE</sub>                    | V <sub>CE</sub> = 10 V, I <sub>C</sub> = 10 mA             | 25   | 80   | 200  |      |
| h <sub>FE</sub> Ratio                 | h <sub>FE1</sub> /h <sub>FE2</sub> | V <sub>CE</sub> = 10 V, I <sub>C</sub> = 10 mA *1          | 0.8  |      | 1.0  |      |
| Difference of Base to Emitter Voltage | ΔV <sub>BE</sub>                   | V <sub>CE</sub> = 10 V, I <sub>C</sub> = 10 mA             |      |      | 30   | mV   |
| Gain Bandwidth Product                | f <sub>T</sub>                     | V <sub>CE</sub> = 10 V, I <sub>C</sub> = 10 mA *2          | 1.5  | 2.0  |      | GHz  |
| Output Capacitance                    | C <sub>ob</sub>                    | V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1.0 MHz *3 |      | 1.1  | 1.5  | pF   |

- \* 1. h<sub>FE1</sub> is the smaller h<sub>FE</sub> value of the 2 transistors.
- 2. Sampling check shall be done on a production lot base using a TO-18 packaged device (equivalent to the 2SC1275).
- 3. Measured with a 3-terminal bridge, terminals other than the collector and base of the device under test should be connected to the guard terminal of the bridge.

TYPICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C)



[MEMO]

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Anti-radioactive design is not implemented in this product.