

# ANTREX Electronics

Electronic Components Sourcing Information

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## Product Reference Information

**Part Number:** 2SC5100

**Manufacturer:** Sanken Electric USA Inc.

**Package:** TO-3P-3 Full Pack

**Availability:** Please confirm with sales

### Product Page:

<https://antrexco.com/product/details/sanken-electric-usa-inc/2sc5100.html>

### Request a Quote:

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## Contact Information

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## Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

### Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

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# 2SC5100

Silicon NPN Triple Diffused Planar Transistor (Complement to type 2SA1908)

Application : Audio and General Purpose

## Absolute maximum ratings (Ta=25°C)

| Symbol           | Ratings                  | Unit |
|------------------|--------------------------|------|
| V <sub>CB0</sub> | 160                      | V    |
| V <sub>CE0</sub> | 120                      | V    |
| V <sub>EB0</sub> | 6                        | V    |
| I <sub>C</sub>   | 8                        | A    |
| I <sub>B</sub>   | 3                        | A    |
| P <sub>C</sub>   | 75(T <sub>C</sub> =25°C) | W    |
| T <sub>J</sub>   | 150                      | °C   |
| T <sub>stg</sub> | -55 to +150              | °C   |

## Electrical Characteristics (Ta=25°C)

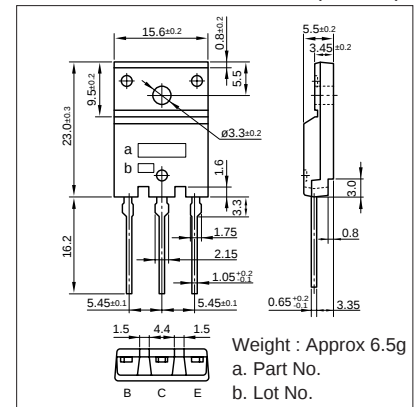
| Symbol               | Conditions                                  | Ratings | Unit |
|----------------------|---------------------------------------------|---------|------|
| I <sub>CB0</sub>     | V <sub>CB</sub> =160V                       | 10max   | μA   |
| I <sub>EB0</sub>     | V <sub>EB</sub> =6V                         | 10max   | μA   |
| V <sub>(BR)CEO</sub> | I <sub>C</sub> =50mA                        | 120min  | V    |
| h <sub>FE</sub>      | V <sub>CE</sub> =4V, I <sub>C</sub> =3A     | 50min*  |      |
| V <sub>CE(sat)</sub> | I <sub>C</sub> =3A, I <sub>B</sub> =0.3A    | 0.5max  | V    |
| f <sub>T</sub>       | V <sub>CE</sub> =12V, I <sub>E</sub> =-0.5A | 20typ   | MHz  |
| C <sub>OB</sub>      | V <sub>CB</sub> =10V, f=1MHz                | 200typ  | pF   |

\*h<sub>FE</sub> Rank O(50to100), P(70to140), Y(90to180)

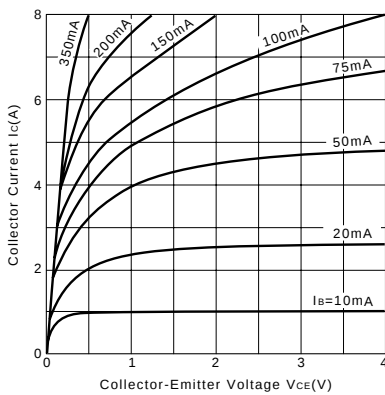
## Typical Switching Characteristics (Common Emitter)

| V <sub>CC</sub><br>(V) | R <sub>L</sub><br>(Ω) | I <sub>C</sub><br>(A) | V <sub>BB1</sub><br>(V) | V <sub>BB2</sub><br>(V) | I <sub>B1</sub><br>(A) | I <sub>B2</sub><br>(A) | t <sub>on</sub><br>(μs) | t <sub>stg</sub><br>(μs) | t <sub>f</sub><br>(μs) |
|------------------------|-----------------------|-----------------------|-------------------------|-------------------------|------------------------|------------------------|-------------------------|--------------------------|------------------------|
| 40                     | 10                    | 4                     | 10                      | -5                      | 0.4                    | -0.4                   | 0.13typ                 | 3.50typ                  | 0.32typ                |

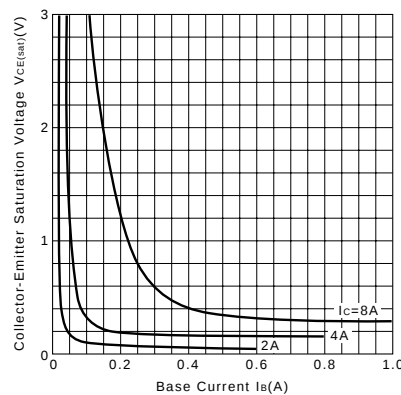
## External Dimensions FM100(TO3PF)



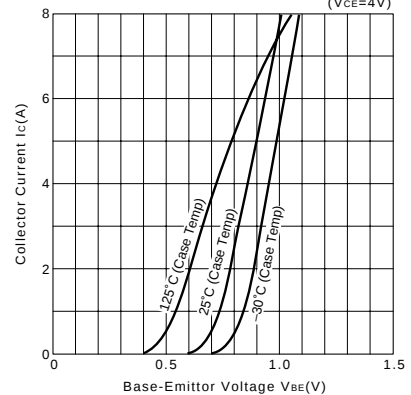
I<sub>C</sub>-V<sub>CE</sub> Characteristics (Typical)



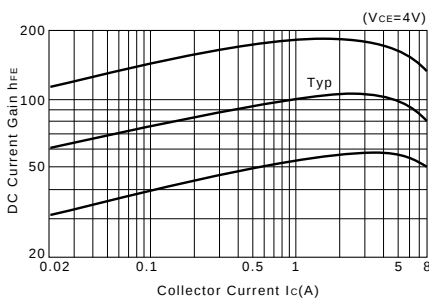
V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)



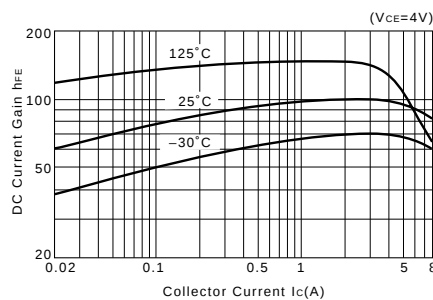
I<sub>C</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)



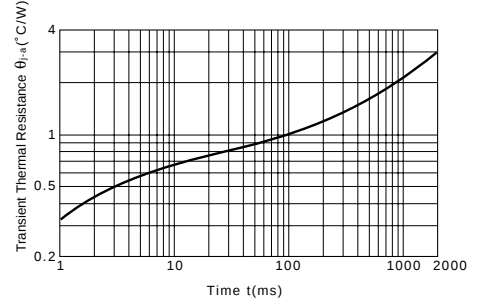
h<sub>FE</sub>-I<sub>C</sub> Characteristics (Typical)



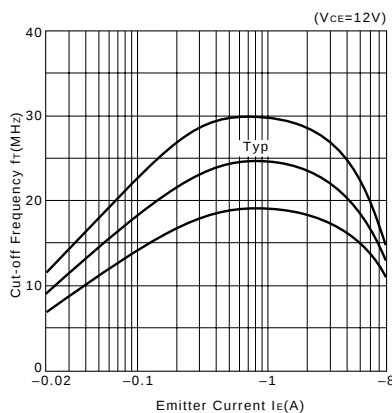
h<sub>FE</sub>-I<sub>C</sub> Temperature Characteristics (Typical)



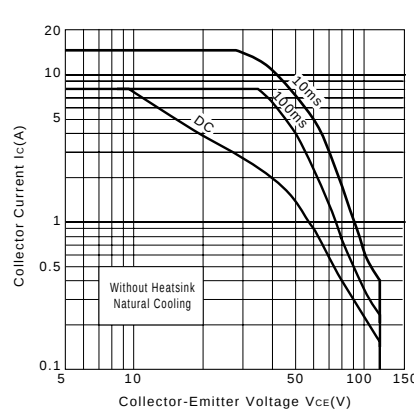
θ<sub>j-a</sub>-t Characteristics



f<sub>T</sub>-I<sub>E</sub> Characteristics (Typical)



Safe Operating Area (Single Pulse)



P<sub>C</sub>-T<sub>a</sub> Derating

