

|   |         |   |
|---|---------|---|
| <b>SANYO</b>                                    | No.485F | <b>2SC2314</b>                          |
|   |         | NPN Epitaxial Planar Silicon Transistor |
| <b>27MHz CB Transceiver Driver Applications</b> |         |   |

**Absolute Maximum Ratings at Ta = 25°C**

|                              |                  |                        |             | unit |
|------------------------------|------------------|------------------------|-------------|------|
| Collector-to-Base Voltage    | V <sub>CB0</sub> | R <sub>BE</sub> = 150Ω | 75          | V    |
| Collector-to-Emitter Voltage | V <sub>CER</sub> |                        | 75          | V    |
| Collector-to-Emitter Voltage | V <sub>CEO</sub> |                        | 45          | V    |
| Emitter-to-Base Voltage      | V <sub>EBO</sub> |                        | 5           | V    |
| Collector Current            | I <sub>C</sub>   |                        | 1.0         | A    |
|                              | I <sub>CP</sub>  |                        | 1.5         | A    |
| Collector Dissipation        | P <sub>C</sub>   |                        | 750         | mW   |
|                              |                  | T <sub>c</sub> = 25°C  | 5           | W    |
| Junction Temperature         | T <sub>j</sub>   |                        | 150         | °C   |
| Storage Temperature          | T <sub>stg</sub> |                        | -55 to +150 | °C   |

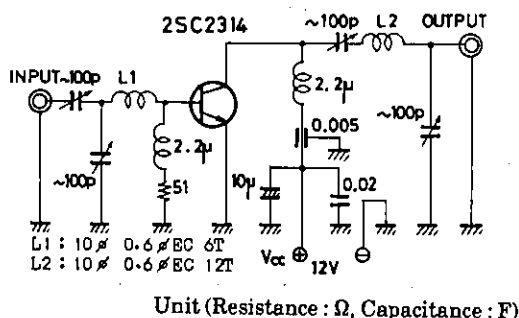
**Electrical Characteristics at Ta = 25°C**

|                          |                      |   | min | typ | max  | unit |
|--------------------------|----------------------|---|-----|-----|------|------|
| Collector Cutoff Current | I <sub>CBO</sub>     | V <sub>CB</sub> = 40V, I <sub>E</sub> = 0               |     |     | 1.0  | μA   |
| Emitter Cutoff Current   | I <sub>EBO</sub>     | V <sub>EB</sub> = 4V, I <sub>C</sub> = 0                |     |     | 1.0  | μA   |
| C-B Breakdown Voltage    | V <sub>(BR)CBO</sub> | I <sub>C</sub> = 10μA, I <sub>E</sub> = 0               | 75  |     |      | V    |
| C-E Breakdown Voltage    | V <sub>(BR)CER</sub> | I <sub>C</sub> = 1mA, R <sub>BE</sub> = 150Ω            | 75  |     |      | V    |
| C-E Breakdown Voltage    | V <sub>(BR)CEO</sub> | I <sub>C</sub> = 1mA, R <sub>BE</sub> = ∞               | 45  |     |      | V    |
| E-B Breakdown Voltage    | V <sub>(BR)EBO</sub> | I <sub>E</sub> = 10μA, I <sub>C</sub> = 0               | 5   |     |      | V    |
| DC Current Gain          | h <sub>FE</sub>      | V <sub>CE</sub> = 5V, I <sub>C</sub> = 500mA            | 60* |     | 320* |      |
| Gain-Bandwidth Product   | f <sub>T</sub>       | V <sub>CE</sub> = 10V, I <sub>C</sub> = 50mA            | 180 | 250 |      | MHz  |
| Output Capacitance       | C <sub>ob</sub>      | V <sub>CB</sub> = 10V, f = 1MHz                         |     | 15  | 25   | pF   |
| Output Power             | P <sub>o</sub>       | V <sub>CC</sub> = 12V, f = 27MHz, P <sub>i</sub> = 35mW | 1.0 | 1.8 |      | W    |
| Collector Efficiency     | η <sub>c</sub>       | See specified Test Circuit.                             | 60  |     |      | %    |
| C-E Saturation Voltage   | V <sub>CE(sat)</sub> | I <sub>C</sub> = 500mA, I <sub>B</sub> = 50mA           |     | 0.2 | 0.6  | V    |
| B-E Saturation Voltage   | V <sub>BE(sat)</sub> | I <sub>C</sub> = 500mA, I <sub>B</sub> = 50mA           |     | 0.9 | 1.2  | V    |

\* : The 2SC2314 is classified by 500mA h<sub>FE</sub> as follows :

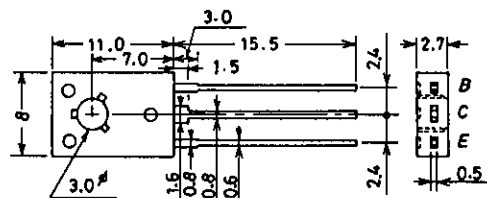
|    |   |     |     |   |     |     |   |     |
|----|---|-----|-----|---|-----|-----|---|-----|
| 60 | D | 120 | 100 | E | 200 | 160 | F | 320 |
|----|---|-----|-----|---|-----|-----|---|-----|

**Collector Efficiency Test Circuit**



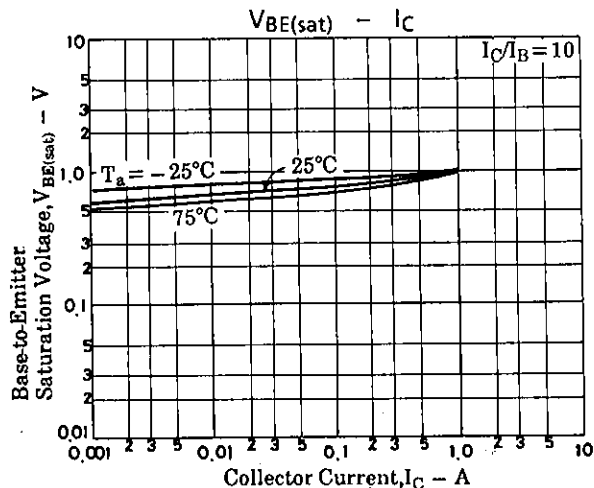
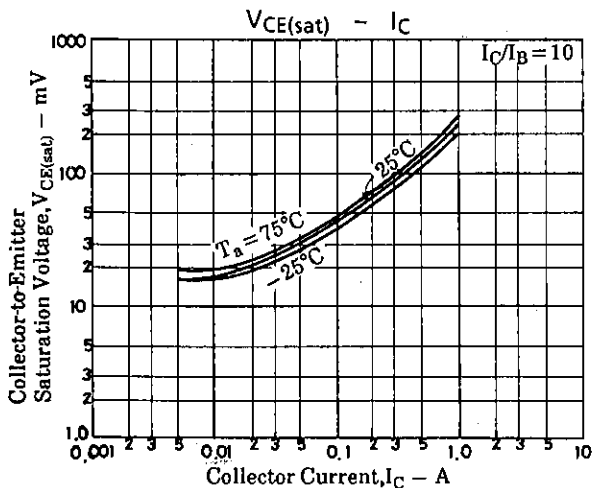
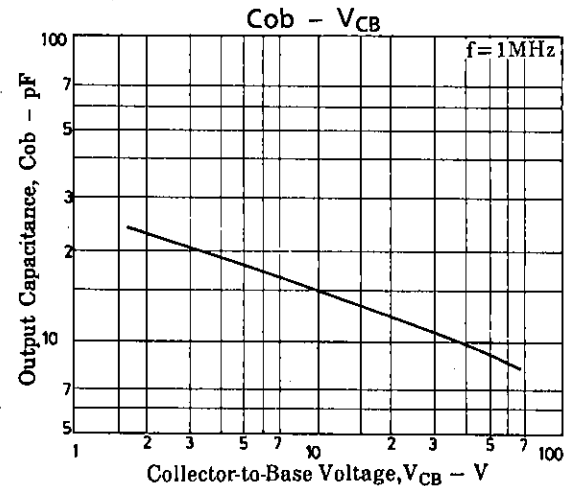
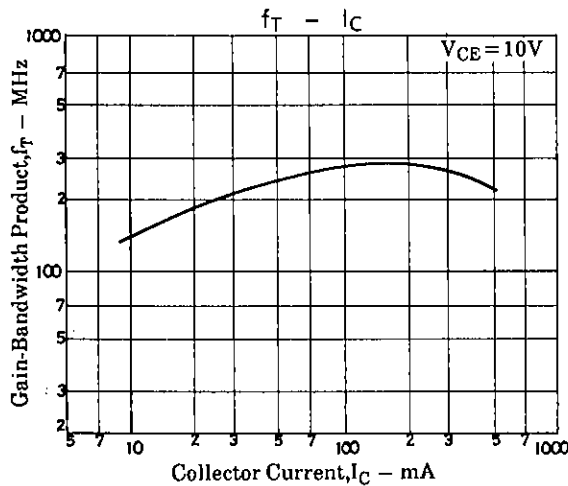
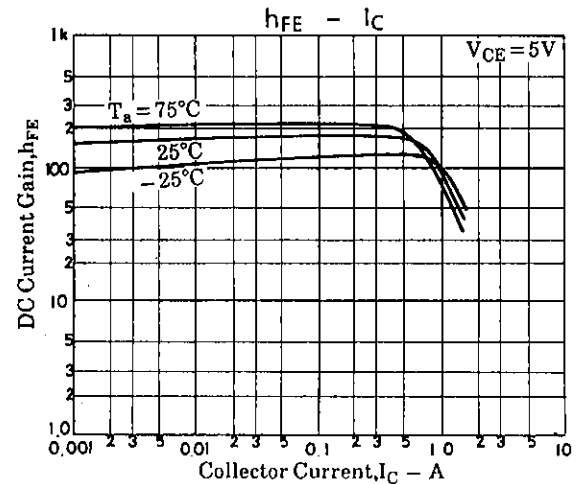
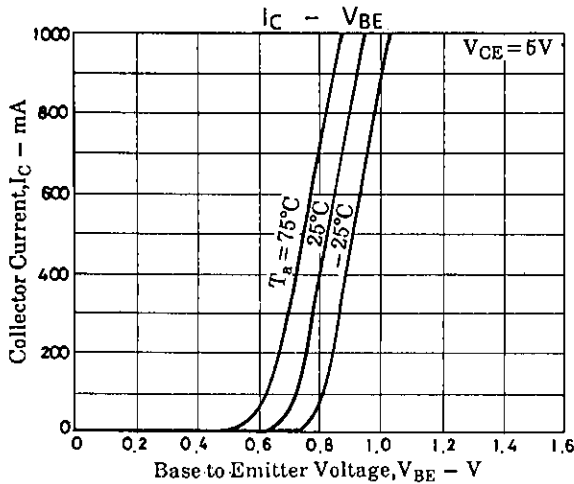
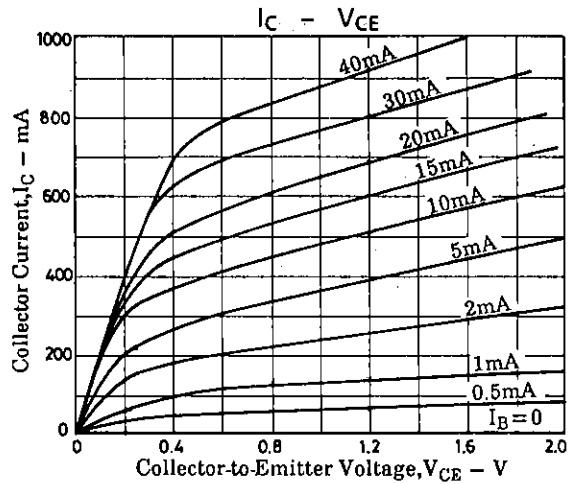
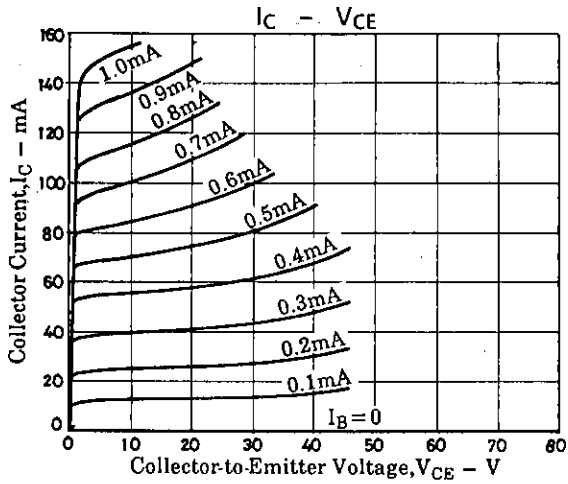
**Package Dimensions 2009A**

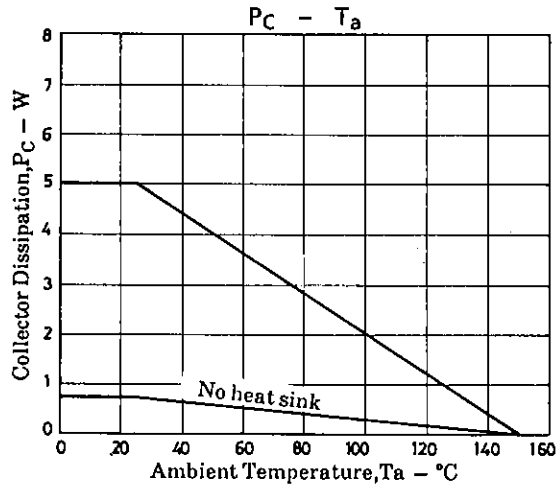
(unit : mm)



JEDEC: TO-126

B: Base  
C: Collector  
E: Emitter





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