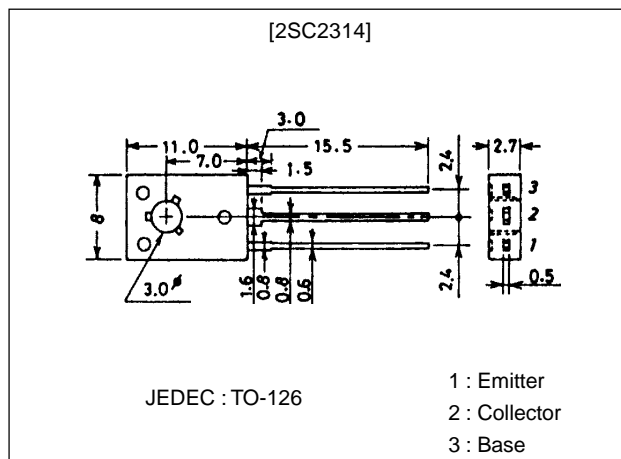


**2SC2314****27MHz CB Transceiver Driver Applications****Package Dimensions**

unit:mm

2009B

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

| Parameter                     | Symbol    | Conditions             | Ratings     | Unit             |
|-------------------------------|-----------|------------------------|-------------|------------------|
| Collector-to-Base Voltage     | $V_{CB0}$ | $R_{BE}=150\Omega$     | 75          | V                |
| Collector-to-Emitter Voltage  | $V_{CER}$ |                        | 75          | V                |
| Collector-to-Emmitter Voltage | $V_{CEO}$ |                        | 45          | V                |
| Emitter-to-Base Voltage       | $V_{EBO}$ |                        | 5           | V                |
| Collector Current             | $I_C$     |                        | 1.0         | A                |
| Collector Current (Pulse)     | $I_{CP}$  |                        | 1.5         | A                |
| Collector Dissipation         | $P_C$     |                        | 750         | mW               |
|                               |           | $T_c=25^\circ\text{C}$ | 5           | W                |
| Junction Temperature          | $T_j$     |                        | 150         | $^\circ\text{C}$ |
| Storage Temperature           | $T_{stg}$ |                        | -55 to +150 | $^\circ\text{C}$ |

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

| Parameter                              | Symbol        | Conditions                         | Ratings |     |     | Unit          |
|--|---------------|------------------------------------|---------|-----|-----|---------------|
|  |               |                                    | min     | typ | max |               |
| Collector Cutoff Current               | $I_{CBO}$     | $V_{CB}=40\text{V}, I_E=0$         |         |     | 1.0 | $\mu\text{A}$ |
| Emitter Cutoff Current                 | $I_{EBO}$     | $V_{EB}=4\text{V}, I_C=0$          |         |     | 1.0 | $\mu\text{A}$ |
| Collector-to-Base Breakdown Voltage    | $V_{(BR)CBO}$ | $I_C=10\mu\text{A}, I_E=0$         | 75      |     |     | V             |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CER}$ | $I_C=1\text{mA}, R_{BE}=150\Omega$ | 75      |     |     | V             |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=1\text{mA}, R_{BE}=\infty$    | 45      |     |     | V             |
| Emitter-to-Base Breakdown Voltage      | $V_{(BR)EBO}$ | $I_E=10\mu\text{A}, I_C=0$         | 5       |     |     | V             |

\* : The 2SC2314 are classified by 500mA  $h_{FE}$  as follows :

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

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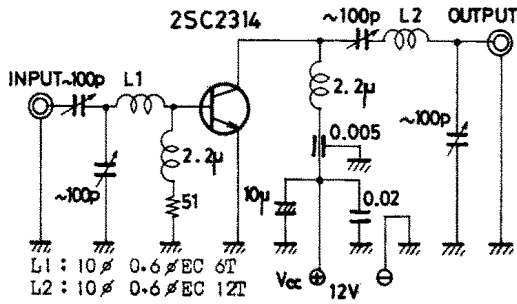
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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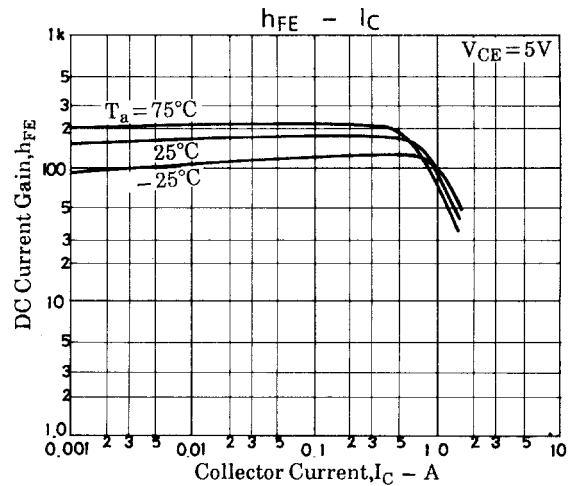
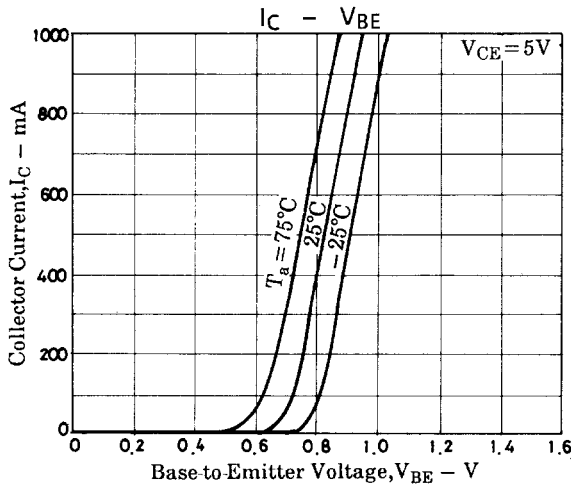
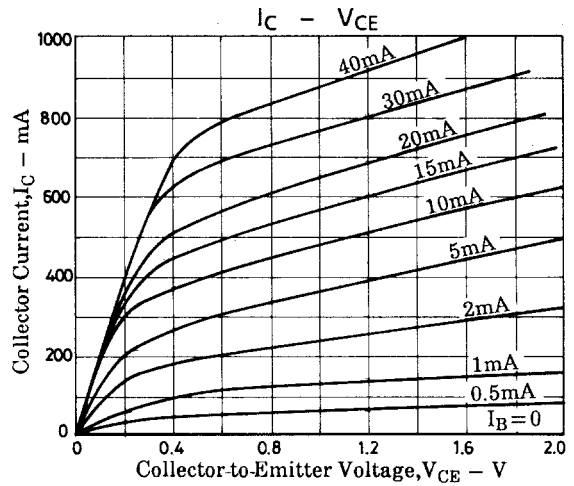
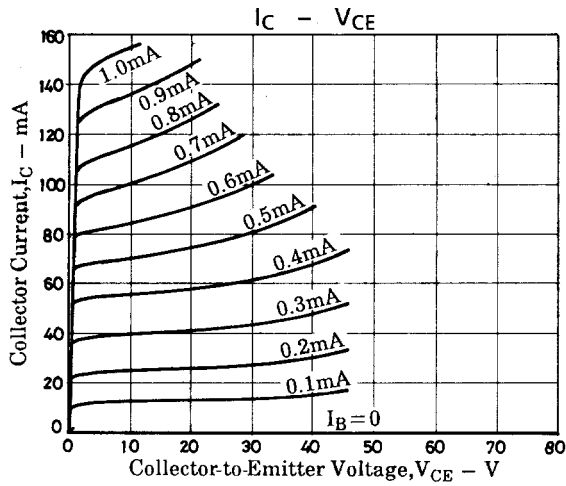
# 2SC2314

| Parameter                               | Symbol        | Conditions                      | Ratings |     |      | Unit |
|---|---------------|---------------------------------|---------|-----|------|------|
|   |               |                                 | min     | typ | max  |      |
| DC Current Gain                         | $h_{FE}$      | $V_{CE}=5V, I_C=500mA$          | 60*     |     | 320* |      |
| Gain-Bandwidth Product                  | $f_T$         | $V_{CE}=10V, I_C=50mA$          | 180     | 250 |      | MHz  |
| Output Capacitance                      | $C_{ob}$      | $V_{CB}=10V, f=1MHz$            |         | 15  | 25   | pF   |
| Output Power                            | $P_O$         | $V_{CC}=12V, f=27MHz, P_i=35mW$ | 1.0     | 1.8 |      | W    |
| Collector Efficiency                    | $\eta_c$      | See specified test circuit.     | 60      |     |      | %    |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=500mA, I_B=50mA$           |         | 0.2 | 0.6  | V    |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=500mA, I_B=50mA$           |         | 0.9 | 1.2  | V    |

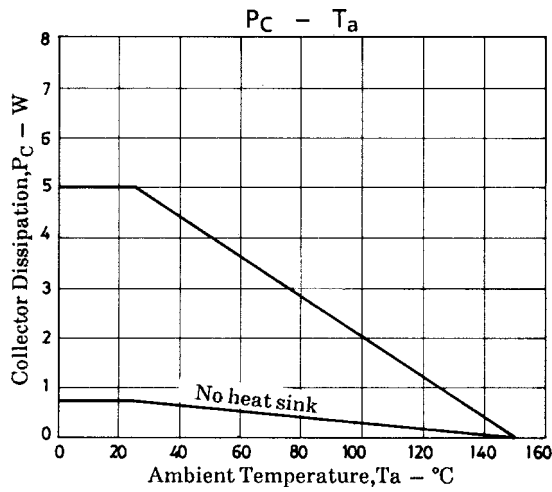
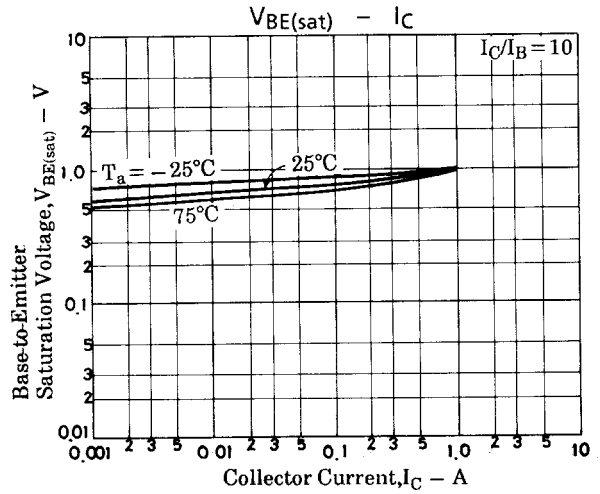
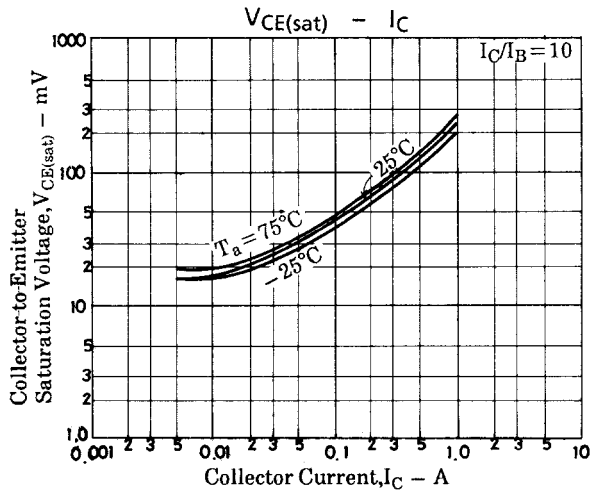
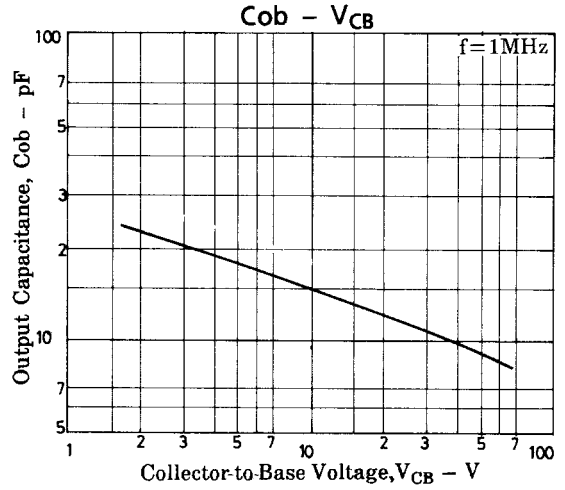
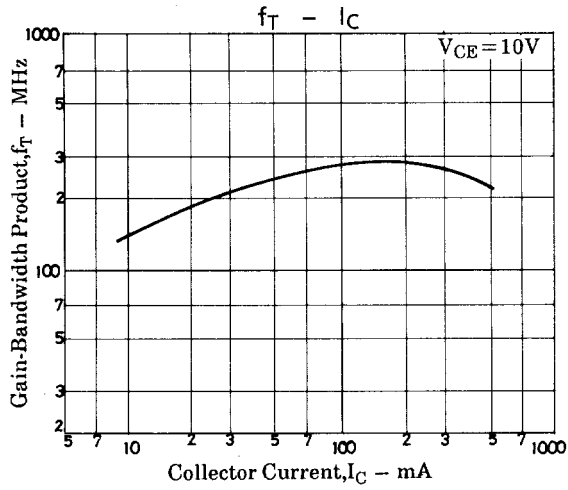
## Collector Efficiency Test Circuit



Unit (resistance :  $\Omega$ , capacitance :  $F$ )



# 2SC2314



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