

# FOR USE BY ELECTRICIANS OVERSEAS:

**最新トランジスタ規格表** (New Transistor Manual) lists all the transistors registered with the Electronic Industries Association of Japan (EIAJ), arranged in a manner easy to look up. We hope that you will make full use of the data provided in this manual by referring to the Japanese-English translation key given below.

| 型 名 | 社 名 | 用 途 | 構 造 | 最大 定 格 ( $T_a=25^{\circ}\text{C}$ ) |                  |               |               |                                 | 電 気 的 特 性 ( $T_a=25^{\circ}\text{C}$ ) |  |                          |  |                       |  |            |                            |                                    |                                 | 外 形 | 備 考 |                     |
|-----|-----|-----|-----|-------------------------------------|------------------|---------------|---------------|---------------------------------|----------------------------------------|--|--------------------------|--|-----------------------|--|------------|----------------------------|------------------------------------|---------------------------------|-----|-----|---------------------|
|     |     |     |     | $V_{CBO}$<br>(V)                    | $V_{CEO}$<br>(V) | $I_C$<br>(mA) | $P_C$<br>(mW) | $T_j$<br>( $^{\circ}\text{C}$ ) | $I_{CBO}$ 最大値<br>( $\mu\text{A}$ )     |  | 直流又はパルス $I_{CE}$<br>(mA) |  | バイアス<br>$I_{CE}$ (mA) |  | $h_{FE}^*$ | $h_{FE}^*$<br>( $\Omega$ ) | $h_{FE}^*$<br>( $\times 10^{-4}$ ) | $h_{FE}^*$<br>( $\mu\text{C}$ ) |     |     | $f_{\beta}$<br>(Mc) |
| 1   | 2   | 3   | 4   | 5                                   |                  |               |               |                                 | 6                                      |  | 7                        |  | 8                     |  |            |                            | 9                                  |                                 | 10  | 11  | 12                  |

- 1 TYPE NUMBER
- 2 ORIGINAL MANUFACTURER
- 3 USES
- 4 MATERIAL AND STRUCTURE
- 5 MAXIMUM RATINGS
- 6  $I_{cbo}$  MAXIMUM VALUE AND  $V_{ce}$  VALUE (CRITERIA FOR MEASURING  $I_{cbo}$ )
- 7 STANDARD VALUE OF DC/PULSE  $h_{FE}$  AND  $V_{ce}$ ,  $I_c$  (CRITERIA FOR MEASURING DC/PULSE  $h_{FE}$ )
- 8 STANDARD VALUE OF  $h$  PARAMETERS AND BIAS  $V_{ce}$ ,  $I_E$  (CRITERIA FOR MEASURING  $h$  PARAMETERS)

\* INDICATES VALUE IN GROUNDED-BASE OPERATION, OTHERWISE VALUE IN EMITTER-GROUNDED OPERATION.

- 9  $f_{\alpha b}$  OF RF CHARACTERISTIC, EXCEPT IN CASE OF \* WHICH INDICATES VALUE OF  $f_T$ .
- 10  $C_{ob}$  AND  $r_{bb'}$  OF RF CHARACTERISTICS EXCEPT IN CASE OF \* IN  $r_{bb'}$  COLUMN WHICH INDICATES VALUE OF  $h_{ie}(\text{real})$
- 11 OUTLINE
- 12 REMARKS

: とコンプリ: COMPLEMENTARY TO .....

| 型 名     | 社 名  | 用 途 | 構 造     | 最 大 定 格 (T <sub>a</sub> = 25℃) |                         |                        |                               |                       | 電 気 的 特 性 (T <sub>a</sub> = 25℃) |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         | 外 形 | 備 考 |                                                    |
|---------|------|-----|---------|--------------------------------|-------------------------|------------------------|-------------------------------|-----------------------|----------------------------------|---------------------|-------------|---------|-----|-----------------|--------------------------|--------------------------------------------------------------------------------|---------------------------|--------------------------|-------------------------|-----|-----|----------------------------------------------------|
|         |      |     |         | V <sub>CBO</sub><br>(V)        | V <sub>EB0</sub><br>(V) | I <sub>C</sub><br>(mA) | P <sub>C</sub><br>(mW)        | T <sub>J</sub><br>(℃) | I <sub>CBO</sub> 最大値<br>(μA)     | V <sub>CE</sub> (V) | 直流又はパルス hFE | バ イ ア ス |     | h <sub>FE</sub> | h <sub>ie</sub> *<br>(Ω) | h <sub>re</sub> *<br>(×10 <sup>-4</sup> )                                      | h <sub>oe</sub> *<br>(μΩ) | f <sub>T</sub> *<br>(Mc) | C <sub>ob</sub><br>(pF) |     |     | r <sub>bb'</sub><br>h <sub>ie</sub> (real)*<br>(Ω) |
| 2SC2922 |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2923  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2924  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2925  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2926  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2927  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2928  | 日 立  | SW  | Si. T   | 1500                           | 7                       | 5 A                    | 80W<br>(T <sub>c</sub> =25℃)  | 150                   | 100                              | 1200                | 20          | 5       | 500 |                 |                          | t <sub>on</sub> < 1 μS, t <sub>f</sub> < 1 μS<br>t <sub>off</sub> < 3 μS       |                           |                          |                         |     | 102 |                                                    |
| " 2929  | 富士電機 | "   | Si. TP  | 450                            | 7                       | 3 A                    | 40W<br>(T <sub>c</sub> =25℃)  | 150                   | 100                              | 450                 | 20          | 5       | 500 |                 |                          | t <sub>on</sub> < 1.5 μS, t <sub>f</sub> < 0.8 μS<br>t <sub>off</sub> < 2 μS   |                           |                          |                         |     | 268 |                                                    |
| " 2930  | "    | "   | "       | 500                            | 10                      | 30A                    | 200W<br>(T <sub>c</sub> =25℃) | 150                   | 1 mA                             | 500                 | 20          | 5       | 10A |                 |                          | t <sub>on</sub> < 1 μS, t <sub>f</sub> < 1 μS<br>t <sub>off</sub> < 3 μS       |                           |                          |                         |     | 172 |                                                    |
| " 2931  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2932  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2933  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2934  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2935  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2936  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2937  | 新電元  | SW  | Si. T   | 500                            | 7                       | 8 A                    | 80W<br>(T <sub>c</sub> =25℃)  | 150                   | 100                              | 500                 | 20          | 2       | 4 A | 10              | -1A                      | t <sub>on</sub> < 1 μS, t <sub>f</sub> < 0.7 μS<br>t <sub>off</sub> < 3 μS     |                           |                          | 20 *                    |     | 119 | T8W40F1                                            |
| " 2938  | "    | "   | "       | 500                            | 7                       | 10A                    | 100W<br>(T <sub>c</sub> =25℃) | 150                   | 100                              | 500                 | 20          | 2       | 5 A | 10              | -1A                      | t <sub>on</sub> < 1 μS, t <sub>f</sub> < 0.7 μS<br>t <sub>off</sub> < 3 μS     |                           |                          | 20 *                    |     | 119 | T10W40F1                                           |
| " 2939  | "    | "   | "       | 500                            | 7                       | 10A                    | 100W<br>(T <sub>c</sub> =25℃) | 150                   | 100                              | 500                 | 13          | 2       | 5 A |                 |                          | t <sub>on</sub> < 1 μS, t <sub>f</sub> < 0.5 μS<br>t <sub>off</sub> < 2 μS     |                           |                          |                         |     | 119 |                                                    |
| " 2940  | "    | "   | Si. TP  | 230                            | 7                       | 30A                    | 300W<br>(T <sub>c</sub> =25℃) | 150                   | 100                              | 230                 | 20          | 0.5     | 30A |                 |                          | t <sub>on</sub> < 0.8 μS, t <sub>f</sub> < 0.4 μS<br>t <sub>off</sub> < 1.6 μS |                           |                          |                         |     | 266 |                                                    |
| " 2941  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2942  | サンケン | SW  | Si. TMe | 230                            | 7                       | 50A                    | 200W<br>(T <sub>c</sub> =25℃) | 150                   | 100                              | 230                 | 25          | 0.5     | 30A |                 |                          | t <sub>on</sub> < 1.2 μS, t <sub>off</sub> < 2 μS<br>t <sub>off</sub> < 1.8 μS |                           |                          |                         |     | 230 |                                                    |
| " 2943  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2944  | 富士電機 | SW  | Si. TP  | 250                            | 7                       | 15A                    | 100W<br>(T <sub>c</sub> =25℃) | 150                   | 100                              | 250                 | 40          | 5       | 2 A |                 |                          | t <sub>on</sub> < 0.8 μS, t <sub>f</sub> < 0.4 μS<br>t <sub>off</sub> < 1.5 μS |                           |                          |                         |     | 220 |                                                    |
| " 2945  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2946  | 日 電  | SW  | Si. E   | 330                            | 7                       | 2 A                    | 15W<br>(T <sub>c</sub> =25℃)  | 150                   | 10                               | 250                 | 60          | 5       | 100 |                 |                          | t <sub>on</sub> < 1 μS, t <sub>f</sub> < 1 μS<br>t <sub>off</sub> < 2 μS       |                           |                          |                         |     | 186 |                                                    |
| " 2947  | "    | AF  | "       | 60                             | 5                       | 100                    | 250                           | 150                   | 0.0                              | 60                  | 200         | 6       | 1   | 6               | -10                      | NF < 15dB<br>(6 V, 0.1mA, 1 kHz)                                               |                           |                          | 250 *                   | 3   | 42  | 2SA1219<br>とコンプリ                                   |
| " 2948  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2949  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2950  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |
| " 2951  |      |     |         |                                |                         |                        |                               |                       |                                  |                     |             |         |     |                 |                          |                                                                                |                           |                          |                         |     |     |                                                    |