

# 2SC5904

## Silicon NPN triple diffusion mesa type

For Horizontal deflection output for TV, CRT monitor

### ■ Features

- High breakdown voltage ( $V_{CBO} \geq 1700$  V)
- High-speed switching ( $t_f < 200$  nsec)
- Wide safe operation area

### ■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

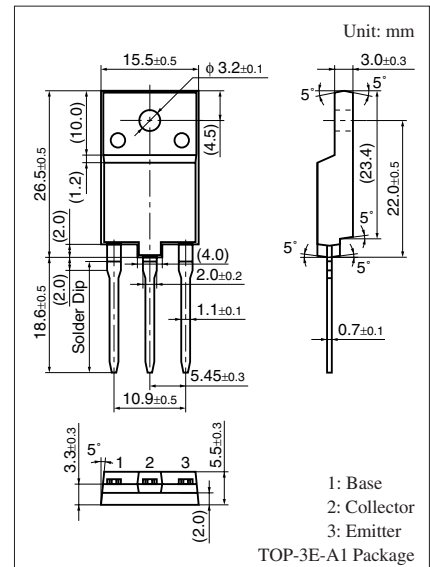
| Parameter                             | Symbol                   | Rating      | Unit             |
|---------------------------------------|--------------------------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{CBO}$                | 1700        | V                |
| Collector-emitter voltage (E-B short) | $V_{CES}$                | 1700        | V                |
| Collector-emitter voltage (Base open) | $V_{CEO}$                | 600         | V                |
| Emitter-base voltage (Collector open) | $V_{EBO}$                | 7           | V                |
| Base current                          | $I_B$                    | 8           | A                |
| Collector current                     | $I_C$                    | 17          | A                |
| Peak collector current *              | $I_{CP}$                 | 27          | A                |
| Collector power dissipation           | $P_C$                    | 65          | W                |
|                                       | $T_a = 25^\circ\text{C}$ | 3.5         |                  |
| Junction temperature                  | $T_j$                    | 150         | $^\circ\text{C}$ |
| Storage temperature                   | $T_{stg}$                | -55 to +150 | $^\circ\text{C}$ |

Note) \*: Non-repetitive peak collector current

### ■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

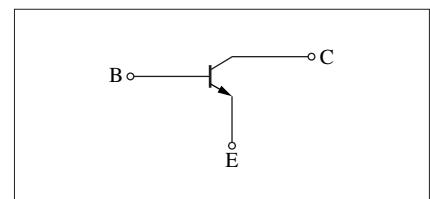
| Parameter                                    | Symbol        | Conditions                                    | Min | Typ | Max | Unit          |
|--|---------------|---|-----|-----|-----|---------------|
| Collector-base cutoff current (Emitter open) | $I_{CBO}$     | $V_{CB} = 1000$ V, $I_E = 0$                  |     |     | 50  | $\mu\text{A}$ |
|  |               | $V_{CB} = 1700$ V, $I_E = 0$                  |     |     | 1   | mA            |
| Emitter-base cutoff current (Collector open) | $I_{EBO}$     | $V_{EB} = 7$ V, $I_C = 0$                     |     |     | 50  | $\mu\text{A}$ |
| Forward current transfer ratio               | $h_{FE}$      | $V_{CE} = 5$ V, $I_C = 8.5$ A                 | 5   |     | 12  | —             |
| Collector-emitter saturation voltage         | $V_{CE(sat)}$ | $I_C = 8.5$ A, $I_B = 2.13$ A                 |     |     | 3   | V             |
| Base-emitter saturation voltage              | $V_{BE(sat)}$ | $I_C = 8.5$ A, $I_B = 2.13$ A                 |     |     | 1.5 | V             |
| Transition frequency                         | $f_T$         | $V_{CE} = 10$ V, $I_C = 0.1$ A, $f = 0.5$ MHz |     | 3   |     | MHz           |
| Storage time                                 | $t_{stg}$     | $I_C = 8.5$ A, Resistance loaded              |     |     | 3.0 | $\mu\text{s}$ |
| Fall time                                    | $t_f$         | $I_{B1} = 2.13$ A, $I_{B2} = -4.25$ A         |     |     | 0.2 | $\mu\text{s}$ |

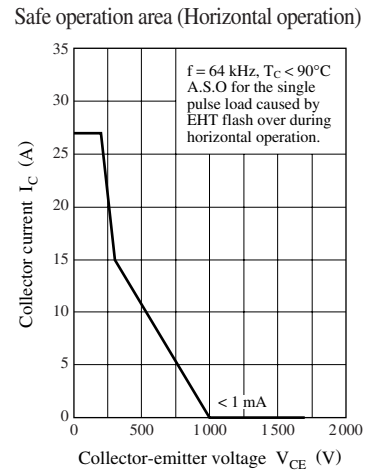
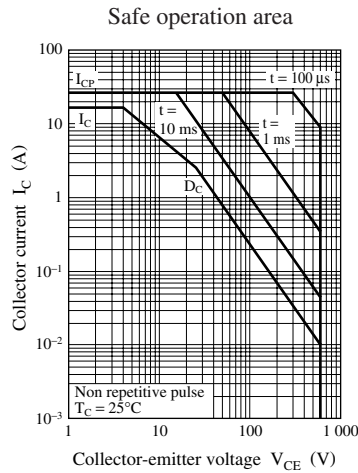
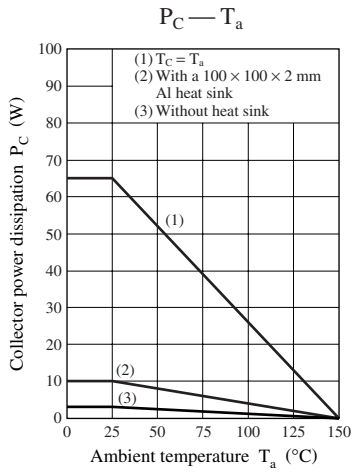
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.



Marking Symbol: C5904

Internal Connection





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