

2SC5905

Silicon NPN triple diffusion mesa type

Horizontal deflection output for TV, CRT monitor

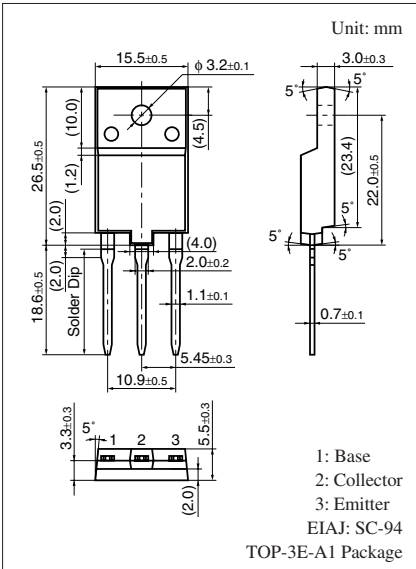
■ Features

- High breakdown voltage: $V_{CBO} \geq 1\,700\text{ V}$
- High-speed switching: $t_f < 200\text{ ns}$
- Wide safe operation area

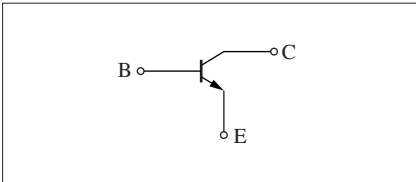
■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|--------------------------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 1 700 | V |
| Collector-emitter voltage (E-B short) | V_{CES} | 1 700 | 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 | 20 | A |
| Peak collector current * | I_{CP} | 30 | A |
| Collector power dissipation | P_C | 70 | 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



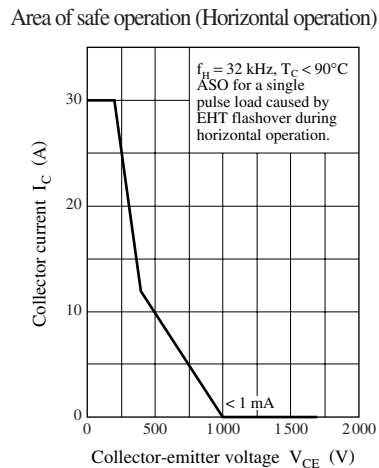
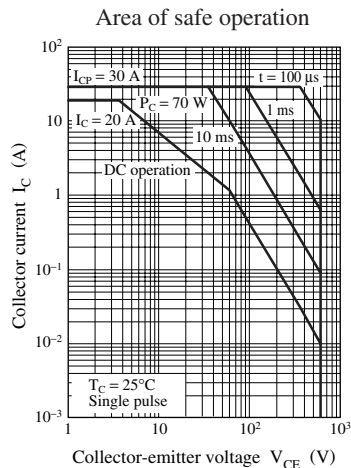
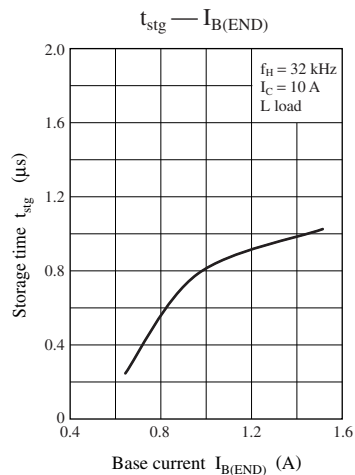
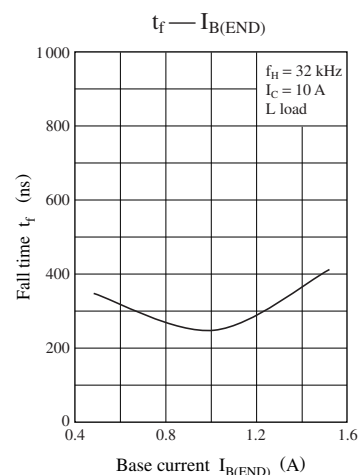
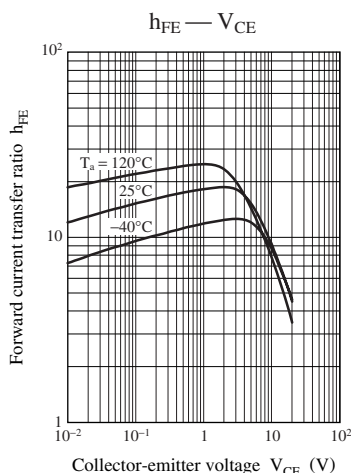
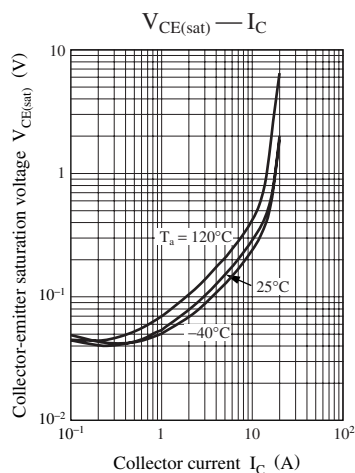
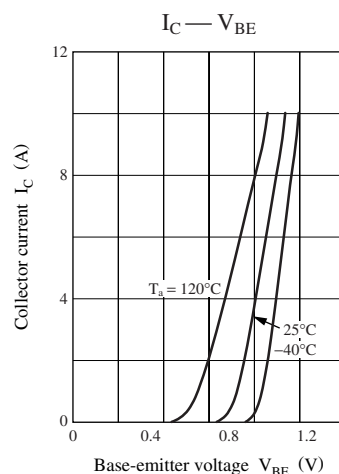
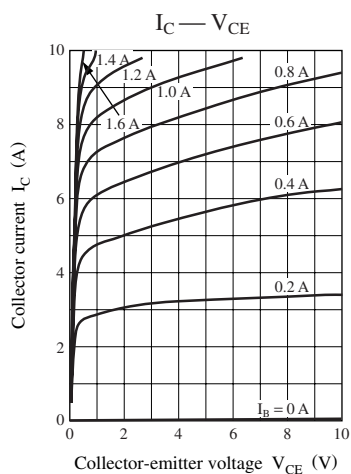
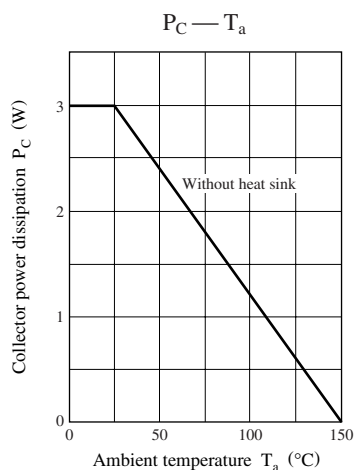
Internal Connection



■ 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} | $V_{CB} = 1\,000\text{ V}, I_E = 0$ | | | 50 | μA |
| | | $V_{CB} = 1\,700\text{ V}, I_E = 0$ | | | 1 | mA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = 7\text{ V}, I_C = 0$ | | | 50 | μA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = 5\text{ V}, I_C = 10\text{ A}$ | 5 | | 12 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10\text{ A}, I_B = 2.5\text{ A}$ | | | 3 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 10\text{ A}, I_B = 2.5\text{ A}$ | | | 1.5 | V |
| Transition frequency | f_T | $V_{CE} = 10\text{ V}, I_C = 0.1\text{ A}, f = 0.5\text{ MHz}$ | | 3 | | MHz |
| Storage time | t_{stg} | $I_C = 10\text{ A}, \text{Resistance loaded}$ | | | 3.0 | μs |
| Fall time | t_f | $I_{B1} = 2.5\text{ A}, I_{B2} = -5.0\text{ A}$ | | | 0.2 | μs |

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



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