

**2SC3688**

## Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

### Applications

- Ultrahigh-definition color display horizontal deflection output.

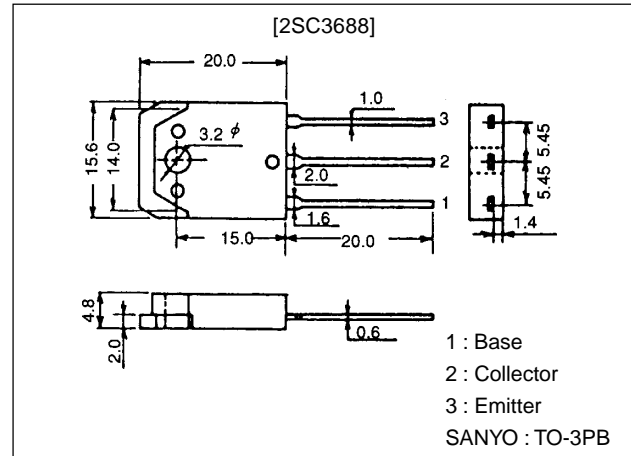
### Features

- Fast speed ( $t_f=100\text{ns}$  typ).
- High breakdown voltage ( $V_{CBO}=1500\text{V}$ ).
- High reliability (adoption of HVP process).
- Adoption of MBIT process.

### Package Dimensions

unit:mm

2022A



### Specifications

#### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

| Parameter                    | Symbol    | Conditions             | Ratings     | Unit             |
|------------------------------|-----------|------------------------|-------------|------------------|
| Collector-to-Base Voltage    | $V_{CBO}$ |                        | 1500        | V                |
| Collector-to-Emitter Voltage | $V_{CEO}$ |                        | 800         | V                |
| Emitter-to-Base Voltage      | $V_{EBO}$ |                        | 6           | V                |
| Collector Current            | $I_C$     |                        | 10          | A                |
| Collector Current (Pulse)    | $I_{CP}$  |                        | 25          | A                |
| Collector Dissipation        | $P_C$     | $T_c=25^\circ\text{C}$ | 150         | W                |
| Junction Temperature         | $T_j$     |                        | 150         | $^\circ\text{C}$ |
| Storage Temperature          | $T_{stg}$ |                        | -55 to +150 | $^\circ\text{C}$ |

#### Electrical Characteristics at $T_a = 25^\circ\text{C}$

| Parameter                               | Symbol         | Conditions   | Ratings |     |     | Unit          |
|---|----------------|--|---------|-----|-----|---------------|
|   |                |  | min     | typ | max |               |
| Collector Cutoff Current                | $I_{CES}$      | $V_{CE}=1500\text{V}$ , $R_{BE}=0$                             |         |     | 1.0 | mA            |
| Collector-to-Emitter Sustain Voltage    | $V_{CEO(sus)}$ | $I_C=100\text{mA}$ , $I_B=0$                                   | 800     |     |     | V             |
| Emitter Cutoff Current                  | $I_{EBO}$      | $V_{EB}=4\text{V}$ , $I_C=0$                                   |         |     | 1.0 | mA            |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$  | $I_C=8\text{A}$ , $I_B=2.0\text{A}$                            |         |     | 5   | V             |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$  | $I_C=8\text{A}$ , $I_B=2.0\text{A}$                            |         |     | 1.5 | V             |
| DC Current Gain                         | $h_{FE}$       | $V_{CE}=5\text{V}$ , $I_C=1.0\text{A}$                         | 8       |     |     |               |
| Storage Time                            | $t_{stg}$      | $I_C=6\text{A}$ , $I_{B1}=1.2\text{A}$ , $I_{B2}=-2.4\text{A}$ |         |     | 3.0 | $\mu\text{s}$ |
| Fall Time                               | $t_f$          | $I_C=6\text{A}$ , $I_{B1}=1.2\text{A}$ , $I_{B2}=-2.4\text{A}$ |         | 0.1 | 0.2 | $\mu\text{s}$ |

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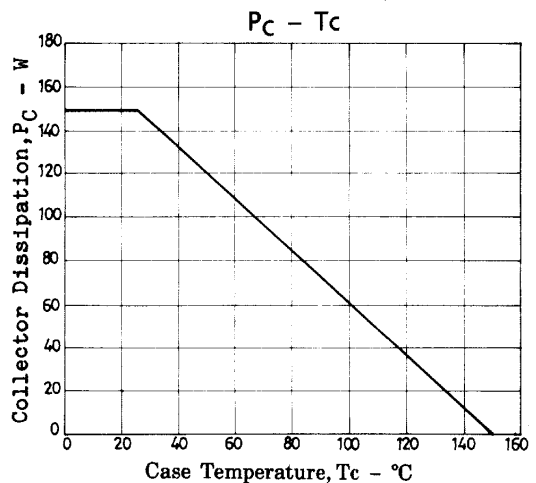
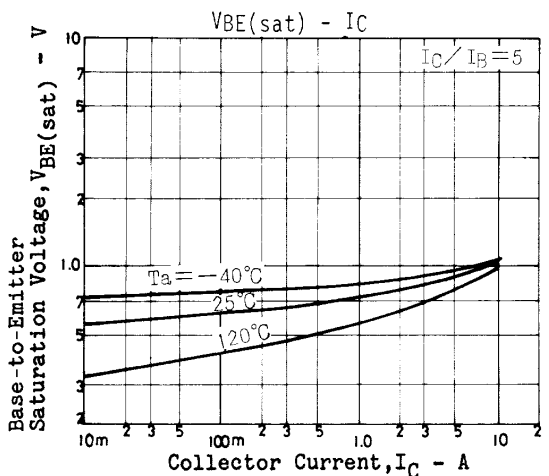
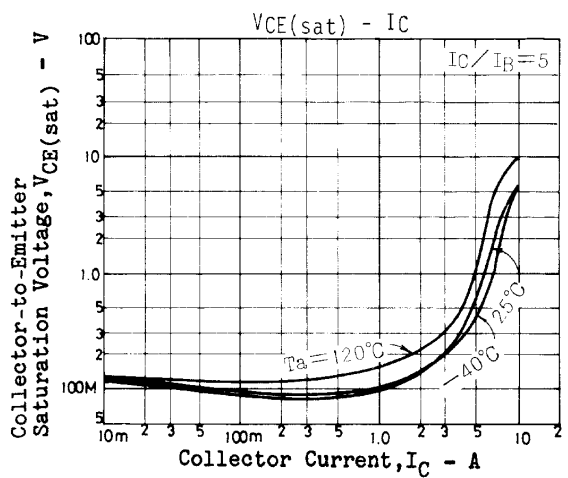
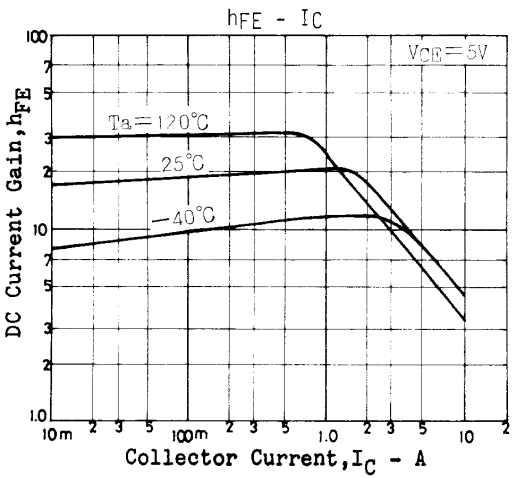
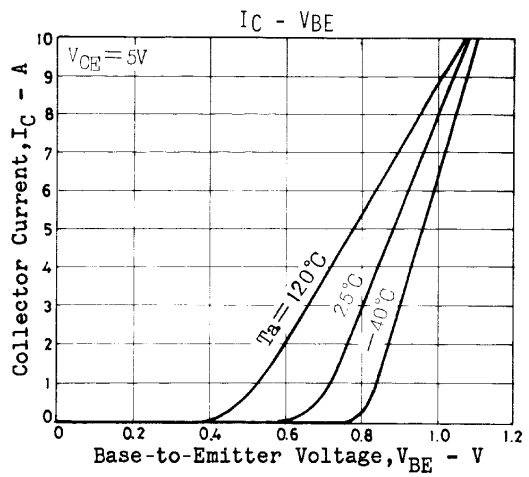
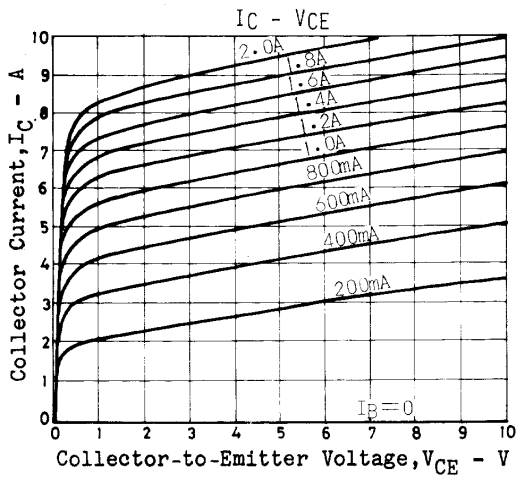
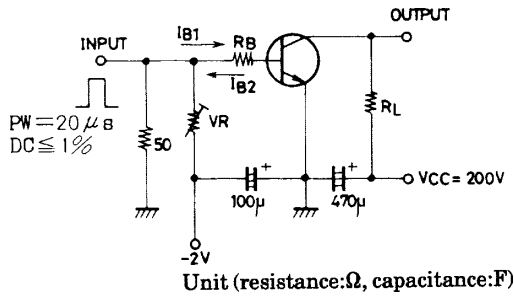
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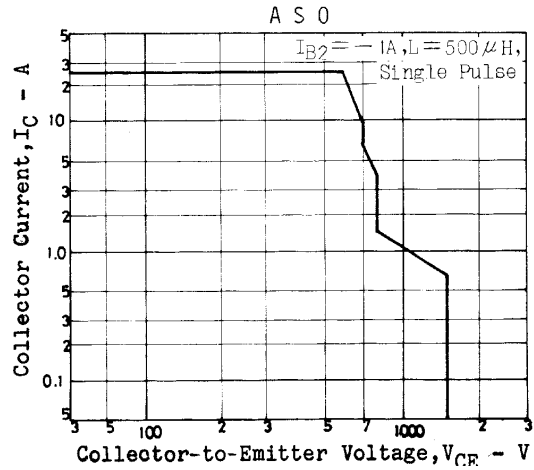
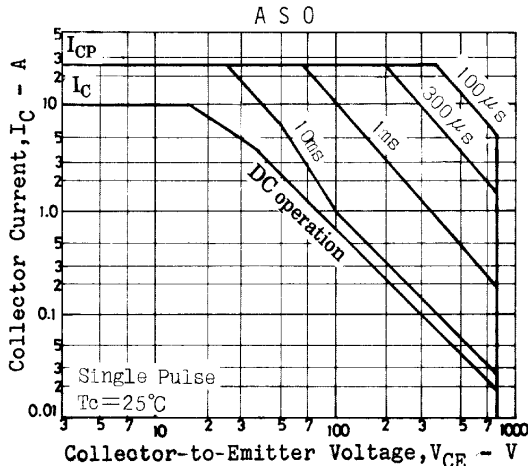
**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

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

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Switching Time Test Circuit





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