

**2SC5045**

## Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

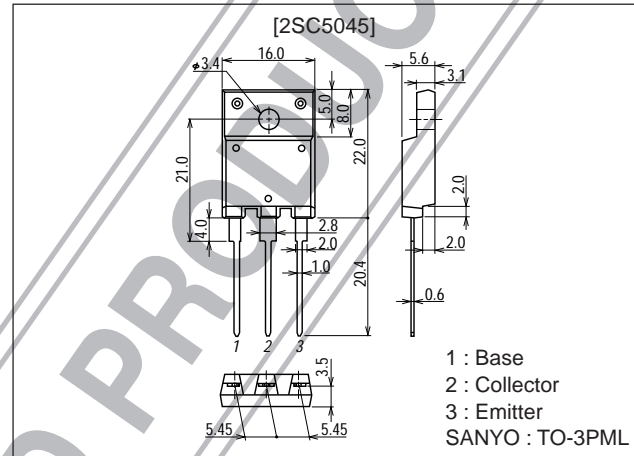
### Features

- High speed ( $t_f=100\text{ns typ}$ ).
- High reliability (Adoption of HVP process).
- High breakdown voltage ( $V_{CBO}=1600\text{V}$ ).
- Adoption of MBIT process.

### Package Dimensions

unit:mm

2039D



### Specifications

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

| Parameter                    | Symbol    | Conditions             | Ratings     | Unit             |
|------------------------------|-----------|------------------------|-------------|------------------|
| Collector-to-Base Voltage    | $V_{CBO}$ |                        | 1600        | V                |
| Collector-to-Emitter Voltage | $V_{CEO}$ |                        | 800         | V                |
| Emitter-to-Base Voltage      | $V_{EBO}$ |                        | 6           | V                |
| Collector Current            | $I_C$     |                        | 15          | A                |
| Collector Current (Pulse)    | $I_{CP}$  |                        | 35          | A                |
| Collector Dissipation        | $P_C$     | $T_c=25^\circ\text{C}$ | 3.0         | W                |
|                              |           |                        | 75          | 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                | $I_{CBO}$      | $V_{CB}=800\text{V}, I_E=0$     |         |     | 10  | $\mu\text{A}$ |
|   | $I_{CES}$      | $V_{CE}=1600\text{V}, R_{BE}=0$ |         |     | 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 | $V_{CE(sat)}$  | $I_C=12\text{A}, I_B=3\text{A}$ |         |     | 5   | V             |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$  | $I_C=12\text{A}, I_B=3\text{A}$ |         |     | 1.5 | V             |

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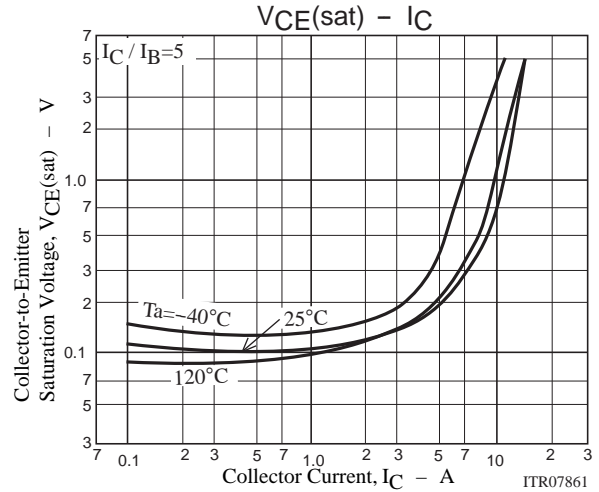
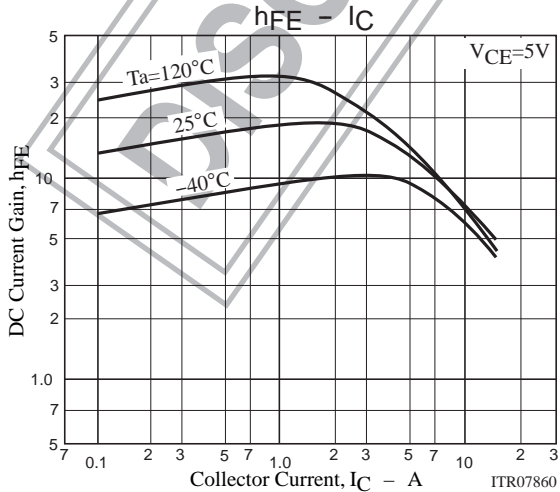
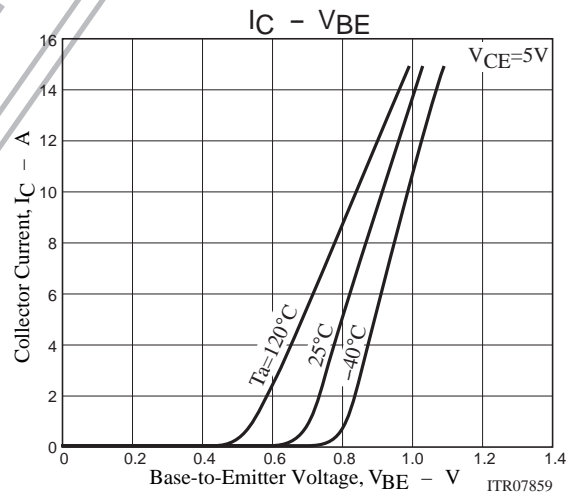
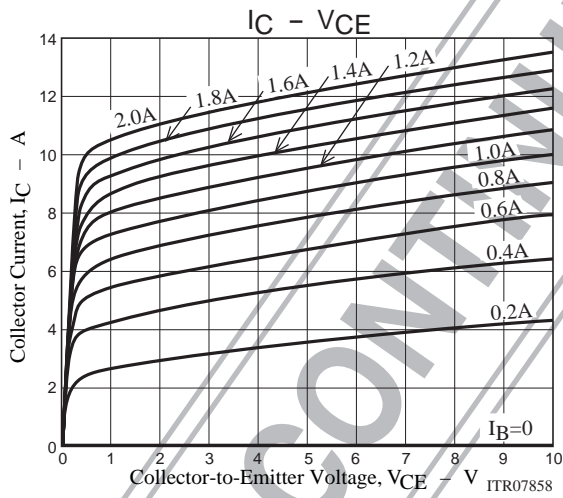
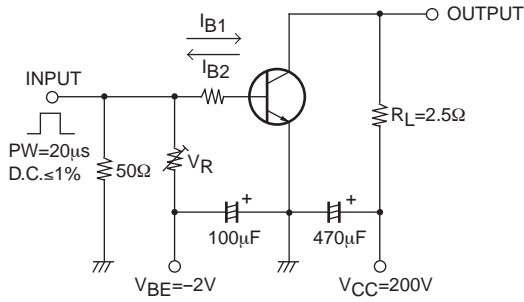
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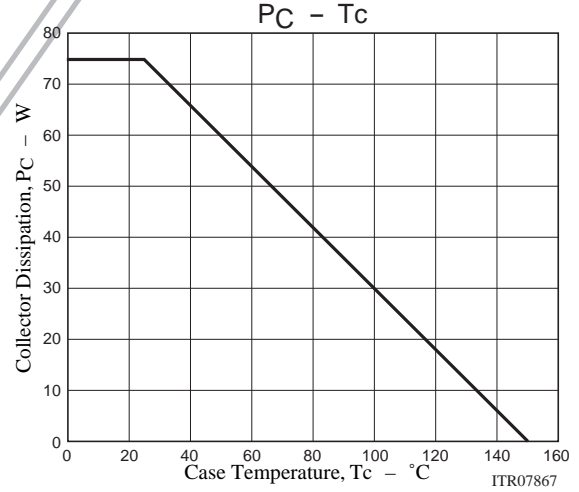
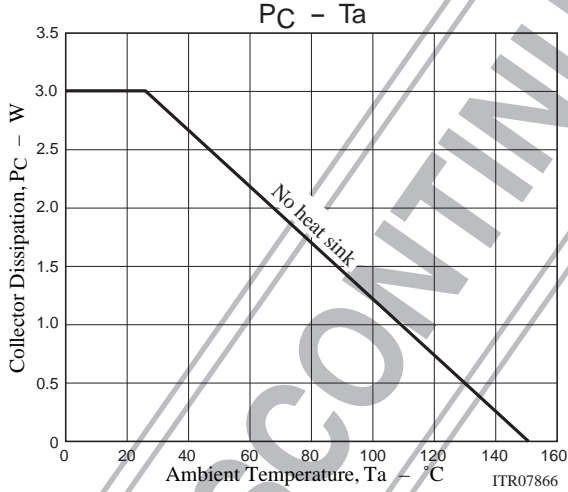
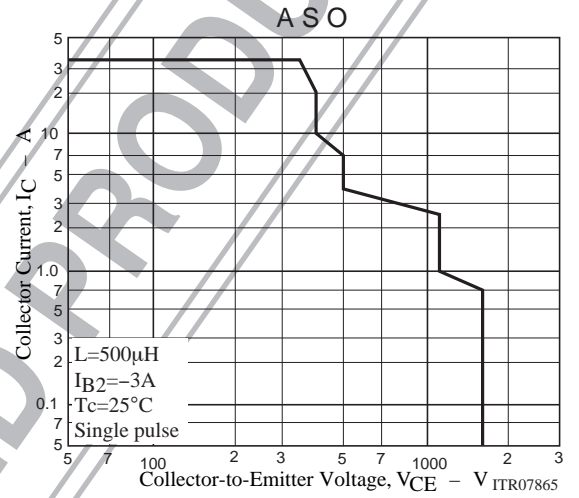
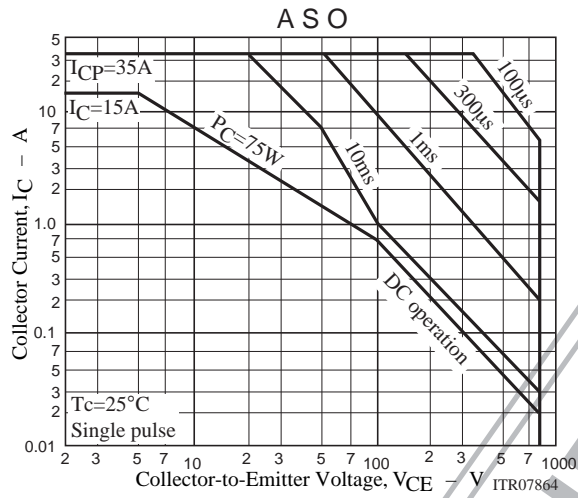
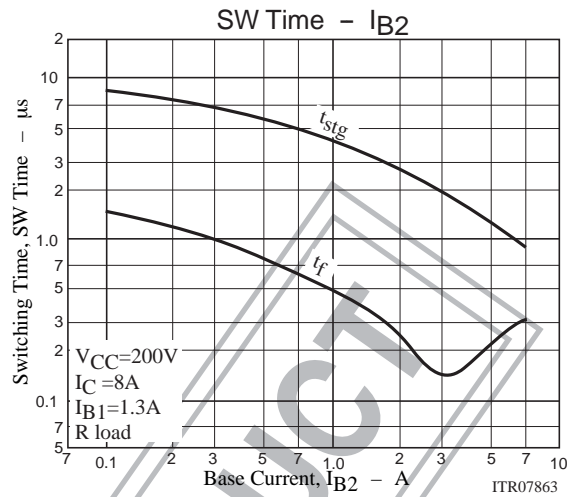
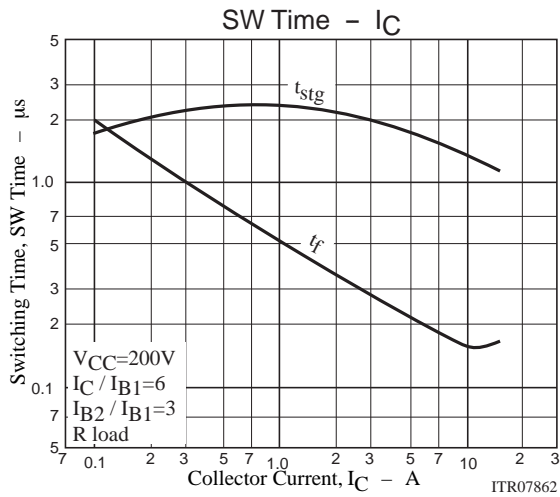
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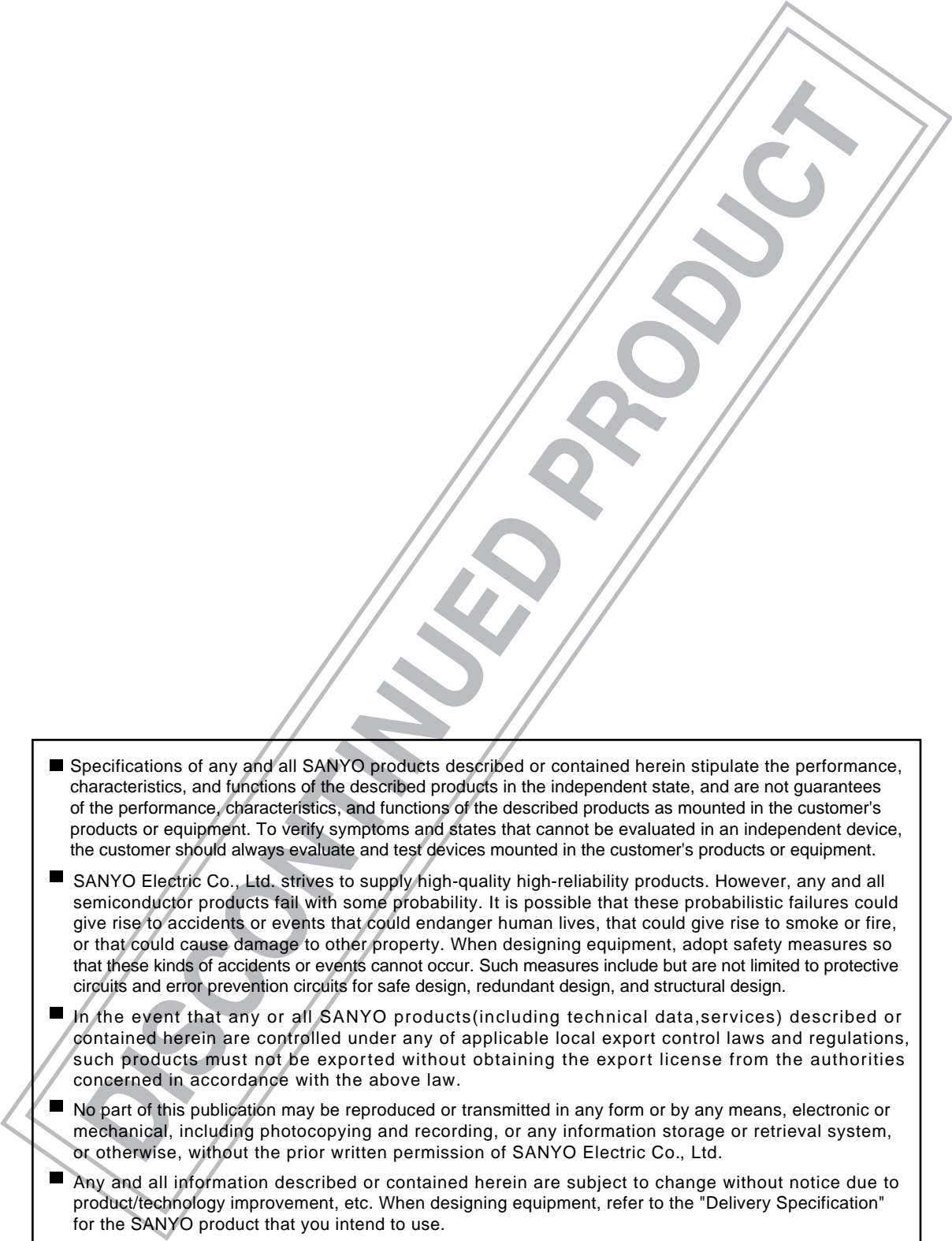
| Parameter       | Symbol    | Conditions                          | Ratings |     |     | Unit    |
|-----------------|-----------|-------------------------------------|---------|-----|-----|---------|
|                 |           |                                     | min     | typ | max |         |
| DC Current Gain | $h_{FE1}$ | $V_{CE}=5V, I_C=1A$                 | 15      |     | 25  |         |
|                 | $h_{FE2}$ | $V_{CE}=5V, I_C=12A$                | 4       |     | 7   |         |
| Storage Time    | $t_{stg}$ | $I_C=8A, I_{B1}=1.3A, I_{B2}=-4.0A$ |         |     | 2.0 | $\mu s$ |
| Fall Time       | $t_f$     | $I_C=8A, I_{B1}=1.3A, I_{B2}=-4.0A$ |         | 0.1 | 0.2 | $\mu s$ |

## Switching Time Test Circuit



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