

|              |          |  |
|--------------|----------|--|
| <b>SANYO</b> | No.2427A | <b>2SD1880</b>   |
|              |          | NPN Triple Diffused Planar Silicon Transistor<br>Color TV Horizontal Deflection<br>Output Applications |

**Applications**

- Color TV horizontal deflection output.
- Color display horizontal deflection output.

**Features**

- High speed ( $t_f = 100\text{ns}$ ).
- High breakdown voltage ( $V_{CBO} = 1500\text{V}$ ).
- High reliability (Adoption of HVP process).
- On-chip damper diode.

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

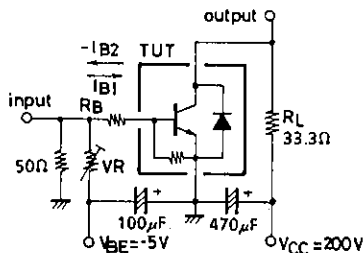
|                              |           |             | unit             |
|------------------------------|-----------|-------------|------------------|
| Collector-to-Base Voltage    | $V_{CBO}$ | 1500        | V                |
| Collector-to-Emitter Voltage | $V_{CEO}$ | 800         | V                |
| Emitter-to-Base Voltage      | $V_{EBO}$ | 6           | V                |
| Collector Current            | $I_C$     | 8           | A                |
| Collector Current (Pulse)    | $I_{CP}$  | 30          | A                |
| Collector Dissipation        | $P_C$     | 70          | W                |
| Junction Temperature         | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage Temperature          | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

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

|                           |                |  | min | typ | max | unit          |
|---------------------------|----------------|--|-----|-----|-----|---------------|
| Collector Cutoff Current  | $I_{CES}$      | $V_{CE} = 1500\text{V}$  |     |     | 1.0 | mA            |
|                           | $I_{CBO}$      | $V_{CB} = 800\text{V}$   |     |     | 10  | $\mu\text{A}$ |
| Collector Sustain Voltage | $V_{CEO(sus)}$ | $I_C = 100\text{mA}, I_B = 0$                                  | 800 |     |     | V             |
| Emitter Cutoff Current    | $I_{EBO}$      | $V_{EB} = 4\text{V}$   | 40  |     | 130 | mA            |
| C-E Saturation Voltage    | $V_{CE(sat)}$  | $I_C = 6\text{A}, I_B = 1.2\text{A}$                           |     |     | 5   | V             |
| B-E Saturation Voltage    | $V_{BE(sat)}$  | $I_C = 6\text{A}, I_B = 1.2\text{A}$                           |     |     | 1.5 | V             |
| DC Current Gain           | $h_{FE1}$      | $V_{CE} = 5\text{V}, I_C = 1\text{A}$                          | 8   |     |     |               |
|                           | $h_{FE2}$      | $V_{CE} = 5\text{V}, I_C = 6\text{A}$                          | 5   |     | 10  |               |
| Diode Forward Voltage     | $V_F$          | $I_{EC} = 8\text{A}$   |     |     | 2.0 | V             |
| Fall Time                 | $t_f$          | $I_C = 6\text{A}, I_{B2} = 1.2\text{A}, I_{B2} = -2.4\text{A}$ |     | 0.1 | 0.3 | $\mu\text{s}$ |

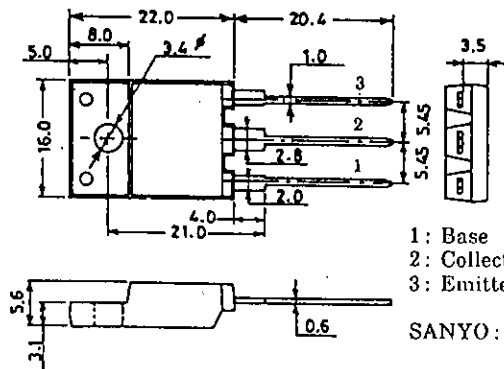
**Switching Time Test Circuit**

PW = 20  $\mu\text{s}$ , duty  $\leq 1\%$



**Package Dimensions 2039B**

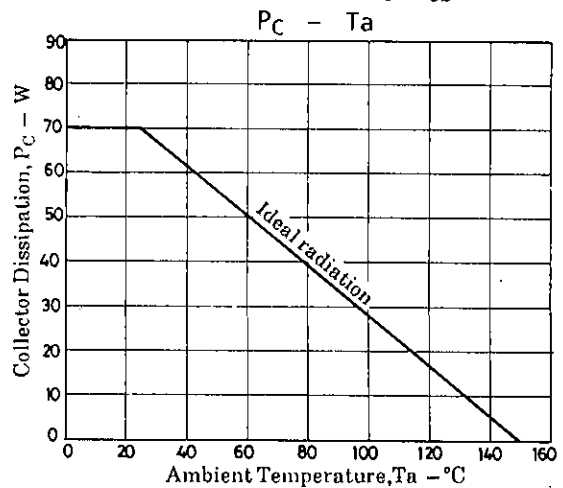
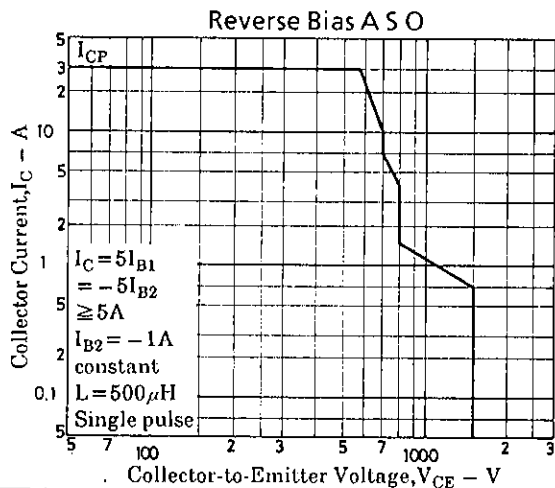
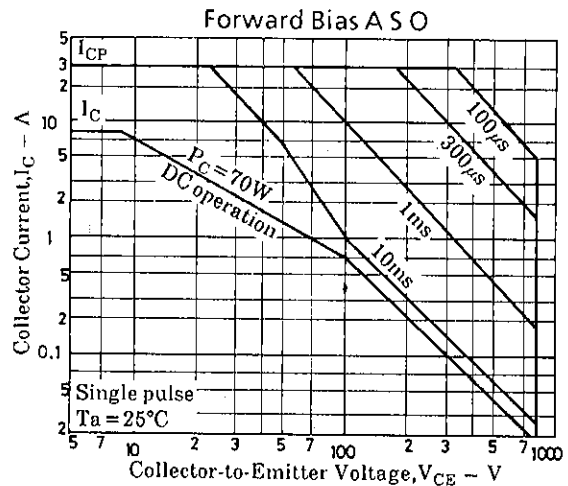
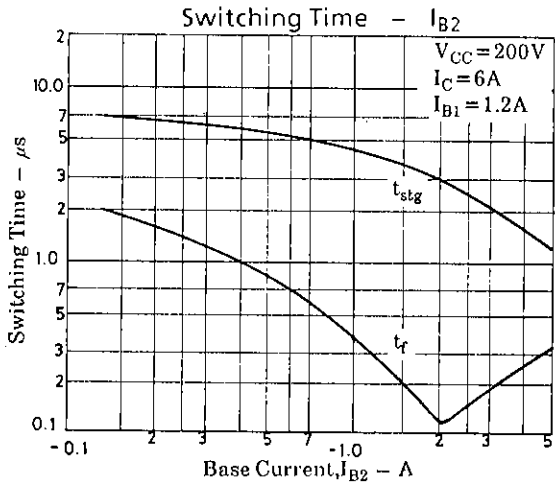
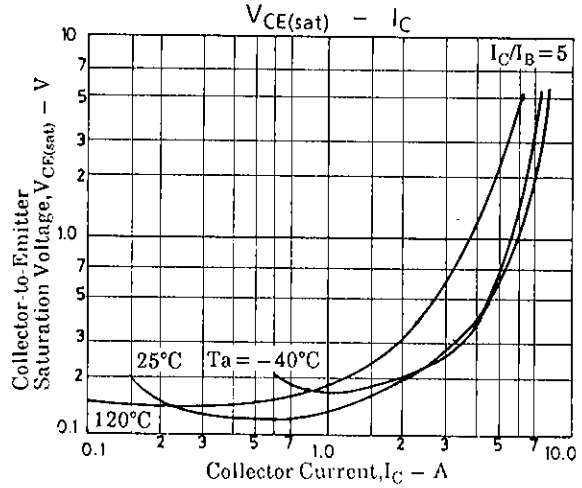
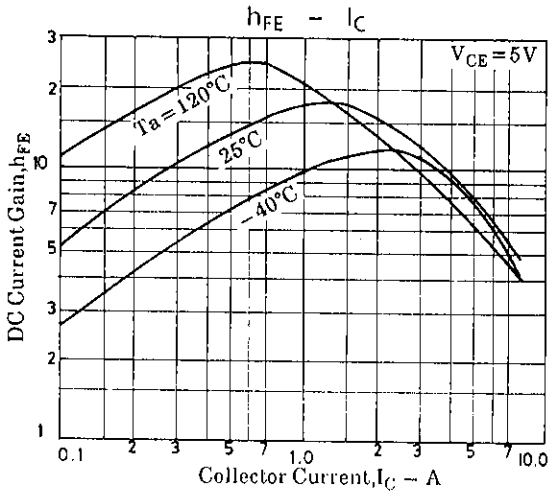
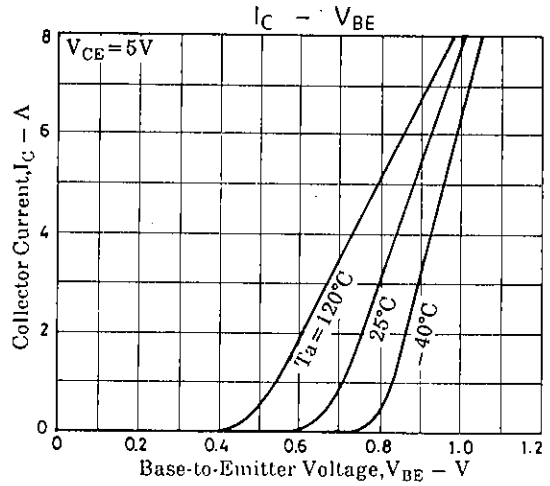
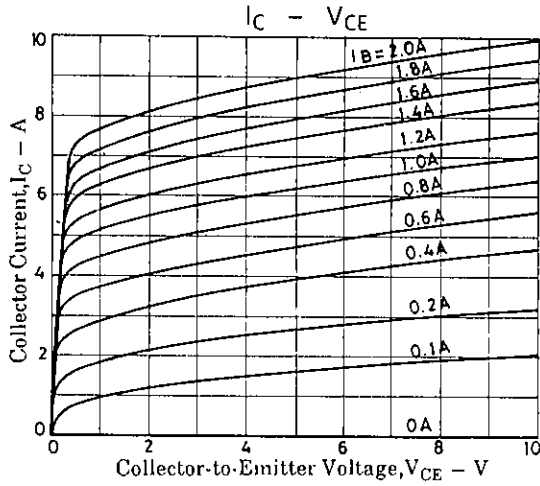
(unit: mm)



1: Base  
2: Collector  
3: Emitter  
SANYO: TO3PML

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

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



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