

**2SC4769**

## Ultrahigh-Definition Color Display Horizontal Deflection Output Applications

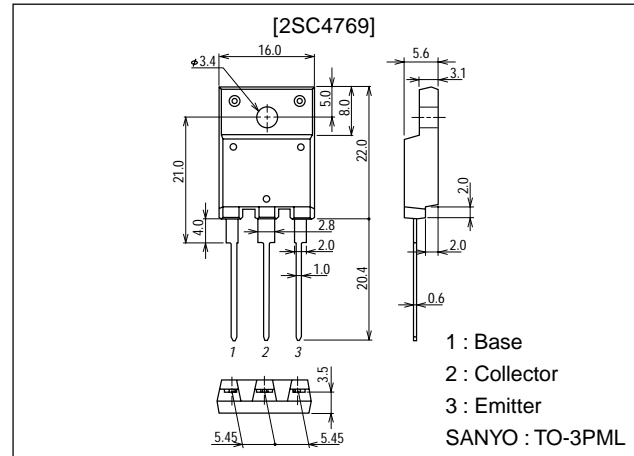
### Features

- High 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.
- On-chip damper diode.

### 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    | $V_{CBO}$ |                        | 1500        | V                |
| Collector-to-Emitter Voltage | $V_{CEO}$ |                        | 800         | V                |
| Emitter-to-Base Voltage      | $V_{EBO}$ |                        | 6           | V                |
| Collector Current            | $I_C$     |                        | 7           | A                |
| Collector Current (Pulse)    | $I_{CP}$  |                        | 16          | A                |
| Collector Dissipation        | $P_C$     |                        | 3           | W                |
|                              |           | $T_c=25^\circ\text{C}$ | 60          | 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  | $\mu\text{A}$ |
|   | $I_{CES}$      | $V_{CE}=1500\text{V}, R_{BE}=0$  |         |     | 1.0 | mA            |
| Collector-to-Emitter Sustain Voltage    | $V_{CEO(sus)}$ | $I_C=100\text{mA}, I_B=0$        | 800     |     |     | V             |
| Emitter Cutoff Current                  | $I_{EBO}$      | $V_{EB}=4\text{V}, I_C=0$        | 40      |     | 130 | mA            |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$  | $I_C=5\text{A}, I_B=1.7\text{A}$ |         |     | 5   | V             |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$  | $I_C=5\text{A}, I_B=1.7\text{A}$ |         |     | 1.5 | V             |

\* : The 2SC4769 is classified by 5A  $h_{FE}$  as follows :

| $h_{FE}$ | 3 to 5 | 4 to 6 | 5 to 8 |
|----------|--------|--------|--------|
| Rank     | 1      | 2      | 3      |

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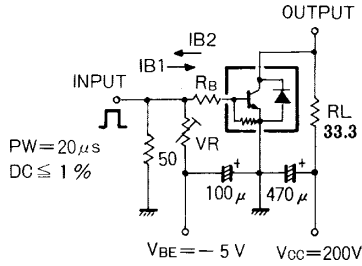
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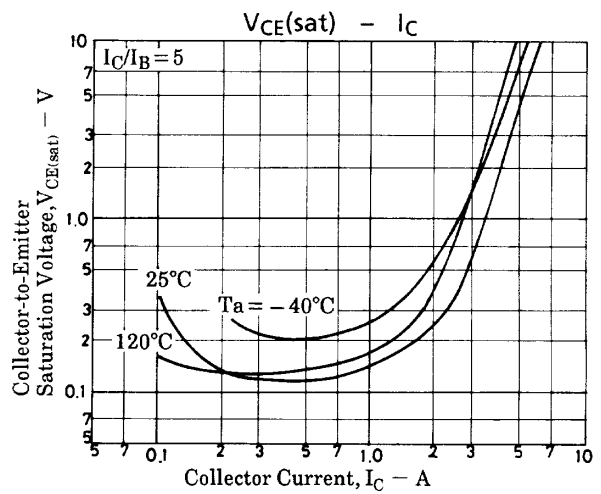
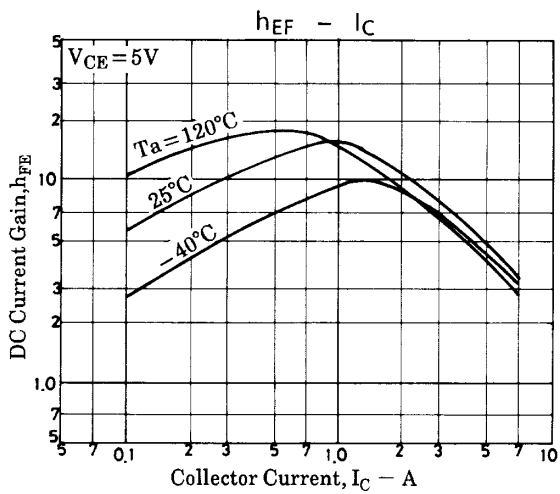
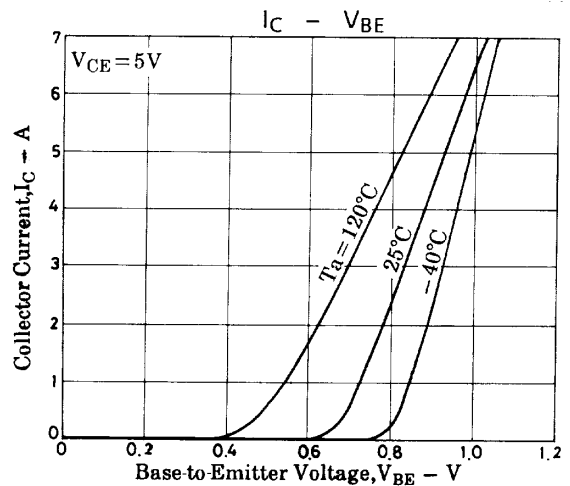
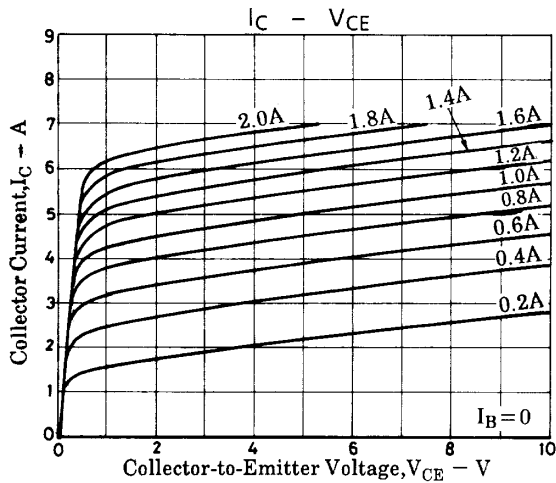
# 2SC4769

| Parameter             | Symbol    | Conditions                          | Ratings |     |      | Unit    |
|-----------------------|-----------|-------------------------------------|---------|-----|------|---------|
|                       |           |                                     | min     | typ | max  |         |
| DC Current Gain       | $h_{FE1}$ | $V_{CE}=5V, I_C=1A$                 | 8       |     |      |         |
|                       | $h_{FE2}$ | $V_{CE}=5V, I_C=5A$                 | 3.0*    |     | 8.0* |         |
| Diode Forward Voltage | $V_F$     | $I_{EC}=7A$                         |         |     | 2.0  | V       |
| Storage Time          | $t_{stg}$ | $I_C=4A, I_{B1}=0.8A, I_{B2}=-1.6A$ |         |     | 3.0  | $\mu s$ |
| Fall Time             | $t_f$     | $I_C=4A, I_{B1}=0.8A, I_{B2}=-1.6A$ |         | 0.1 | 0.2  | $\mu s$ |

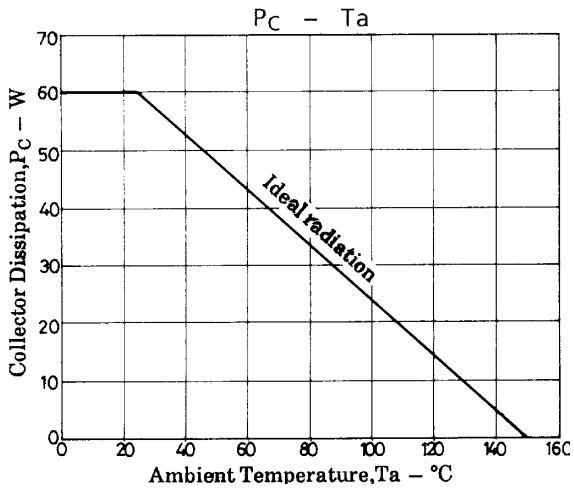
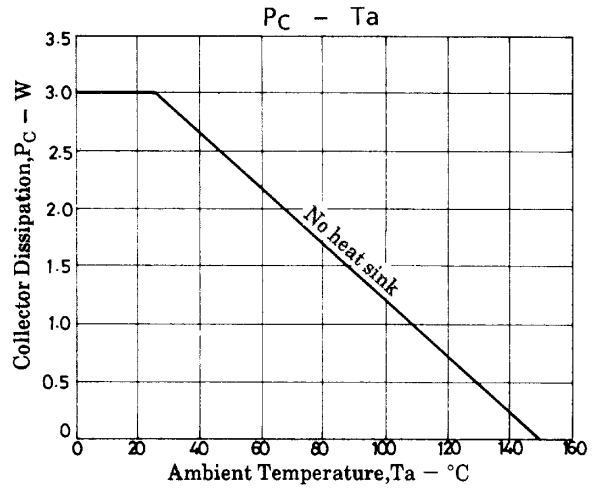
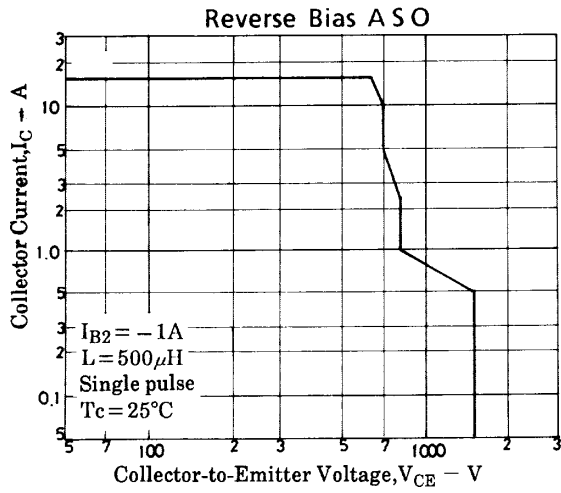
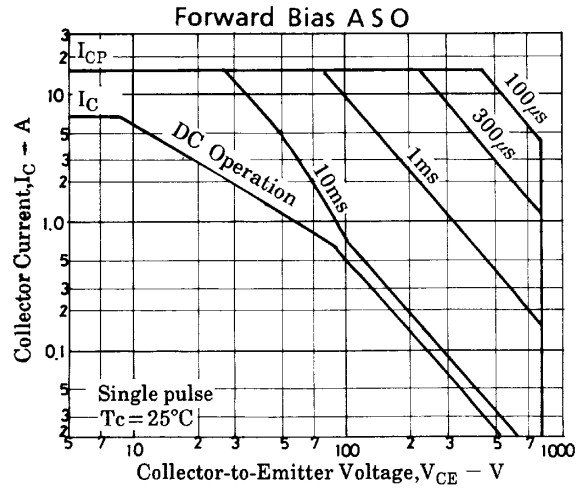
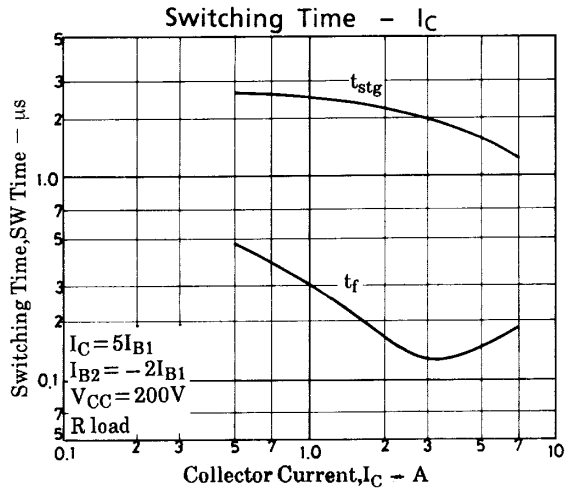
## Switching Time Test Circuit



Unit (resistance:  $\Omega$ , capacitance: F)



# 2SC4769



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