

**2SC4836****20V/5A Switching Applications****Applications**

- Strobes, power supplies, relay drivers, lamp drivers.

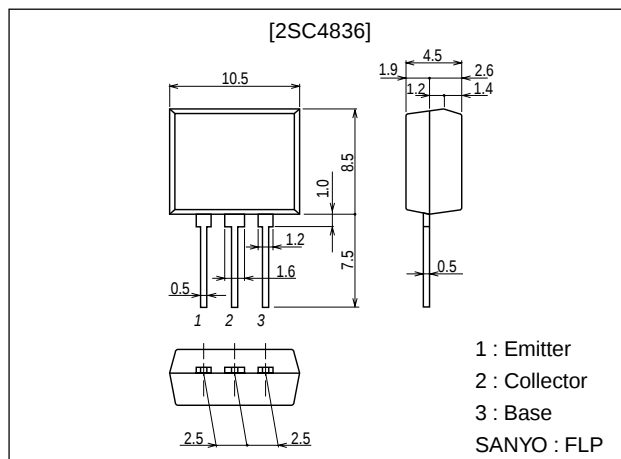
**Features**

- Large allowable collector dissipation.
- Low saturation voltage.
- Large current capacity.
- Fast switching speed.
- Usage of radial taping to meet automatic mounting.

**Package Dimensions**

unit:mm

2084B

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

| Parameter                    | Symbol    | Conditions | Ratings     | Unit |
|------------------------------|-----------|------------|-------------|------|
| Collector-to-Base Voltage    | $V_{CBO}$ |            | 60          | V    |
| Collector-to-Emitter Voltage | $V_{CEO}$ |            | 20          | V    |
| Emitter-to-Base Voltage      | $V_{EBO}$ |            | 6           | V    |
| Collector Current            | $I_C$     |            | 5           | A    |
| Collector Current (Pulse)    | $I_{CP}$  |            | 8           | A    |
| Collector Dissipation        | $P_C$     |            | 1.5         | W    |
| Junction Temperature         | $T_J$     |            | 150         | °C   |
| Storage Temperature          | $T_{stg}$ |            | -55 to +150 | °C   |

**Electrical Characteristics at Ta = 25°C**

| Parameter                | Symbol    | Conditions             | Ratings |     |      | Unit |
|--------------------------|-----------|------------------------|---------|-----|------|------|
|                          |           |                        | min     | typ | max  |      |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}=50V, I_E=0$    |         |     | 100  | nA   |
| Emitter Cutoff Current   | $I_{EBO}$ | $V_{EB}=5V, I_C=0$     |         |     | 100  | nA   |
| DC Current Gain          | $h_{FE1}$ | $V_{CE}=2V, I_C=500mA$ | 120*    |     | 560* |      |
|                          | $h_{FE2}$ | $V_{CE}=2V, I_C=3A$    | 95      |     |      |      |
| Gain-Bandwidth Product   | $f_T$     | $V_{CE}=10V, I_C=50mA$ |         | 120 |      | MHz  |
| Output Capacitance       | $C_{ob}$  | $V_{CB}=10V, f=1MHz$   |         | 45  |      | pF   |

\* : The 2SC4836 is classified by 500mA  $h_{FE}$  as follows :

|     |   |     |     |   |     |     |   |     |
|-----|---|-----|-----|---|-----|-----|---|-----|
| 120 | E | 200 | 160 | F | 320 | 280 | G | 560 |
|-----|---|-----|-----|---|-----|-----|---|-----|

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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

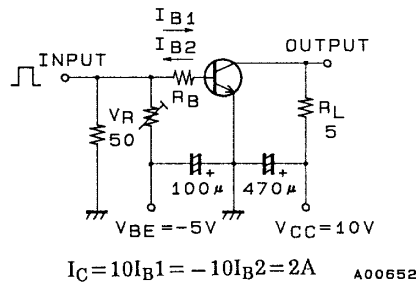
12099HA (KT)/5232MH, (KOTO) No.4134-1/4

2SC4836

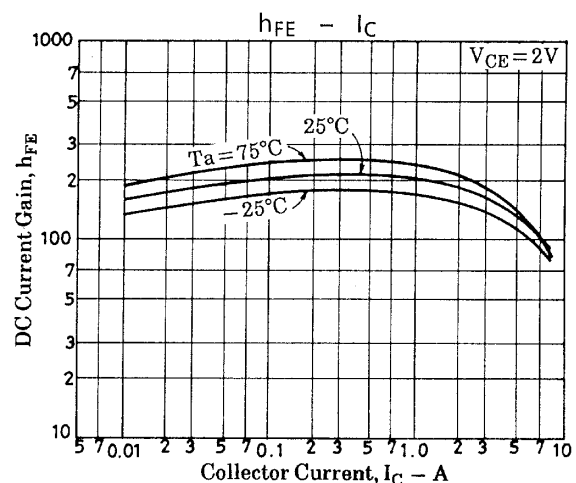
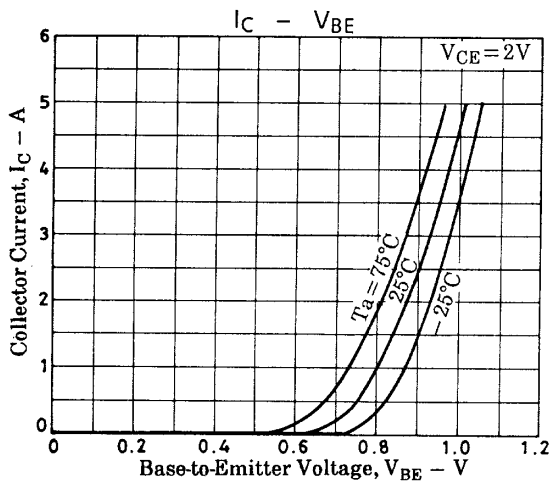
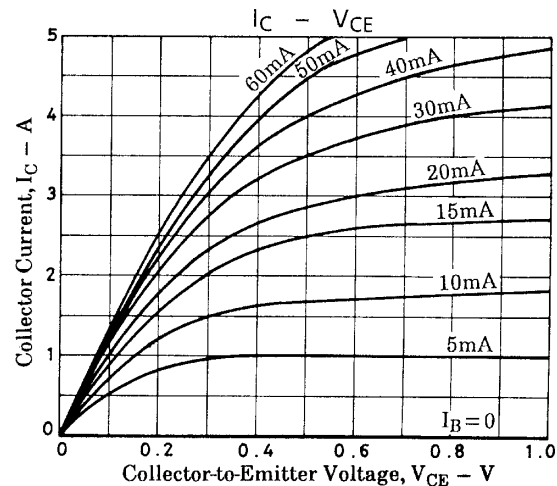
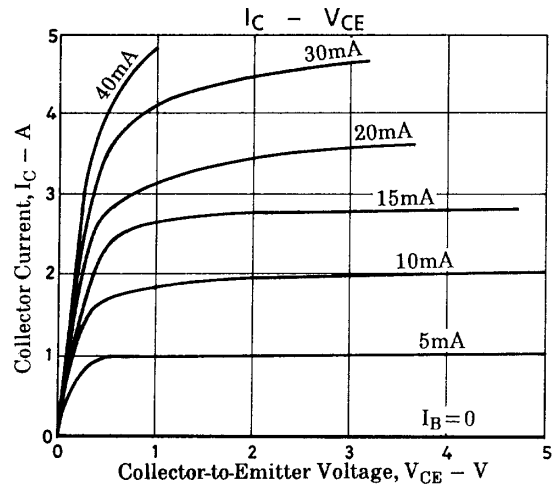
| Parameter                               | Symbol        | Conditions                  | Ratings |     |     | Unit |
|-----------------------------------------|---------------|-----------------------------|---------|-----|-----|------|
|                                         |               |                             | min     | typ | max |      |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=3A, I_B=60mA$          |         | 220 | 500 | mV   |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=3A, I_B=60mA$          |         |     | 1.5 | V    |
| Collector-to-Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C=10\mu A, I_E=0$        | 60      |     |     | V    |
| Collector-to-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C=1mA, R_{BE}=\infty$    | 20      |     |     | V    |
| Emitter-to-Base Breakdown Voltage       | $V_{(BR)EBO}$ | $I_E=10\mu A, I_C=0$        | 6       |     |     | V    |
| Turn ON Time                            | $t_{on}$      | See specified Test Circuit. |         | 30  |     | ns   |
| Storage Time                            | $t_{stg}$     | See specified Test Circuit. |         | 300 |     | ns   |
| Fall Time                               | $t_f$         | See specified Test Circuit. |         | 40  |     | ns   |

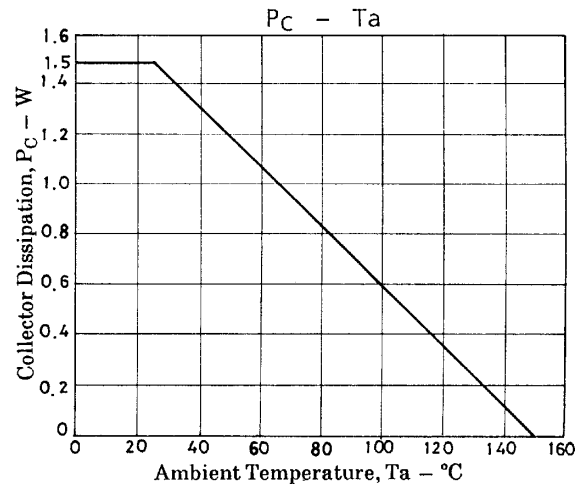
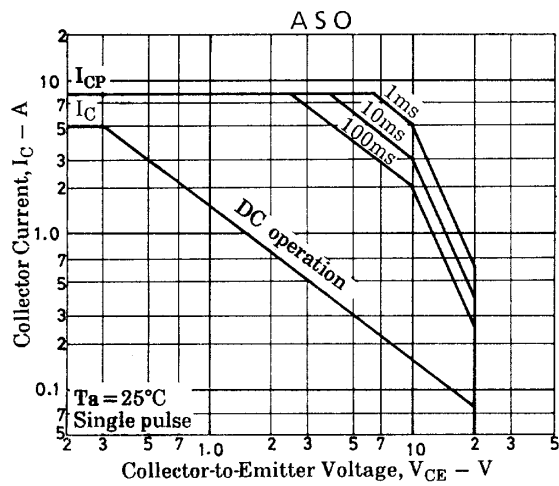
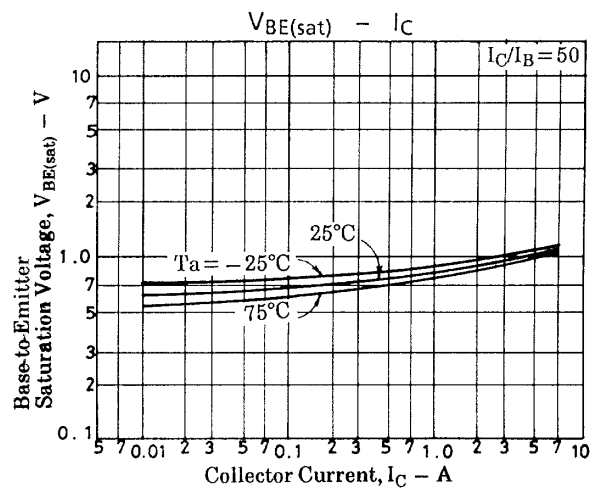
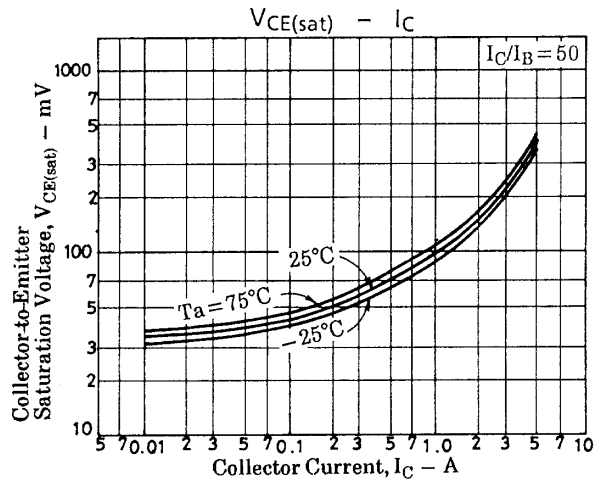
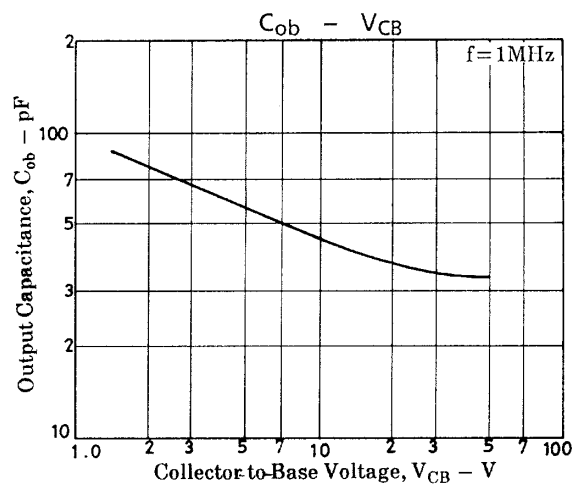
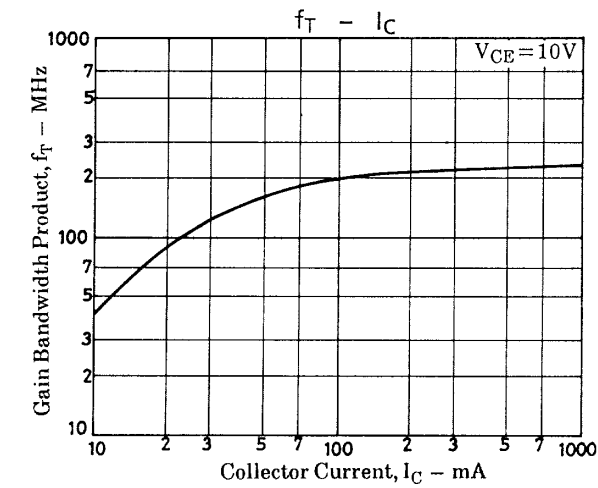
Switching Time Test Circuit

PW = 20  $\mu$ s  
DC  $\leq$  1%



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





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